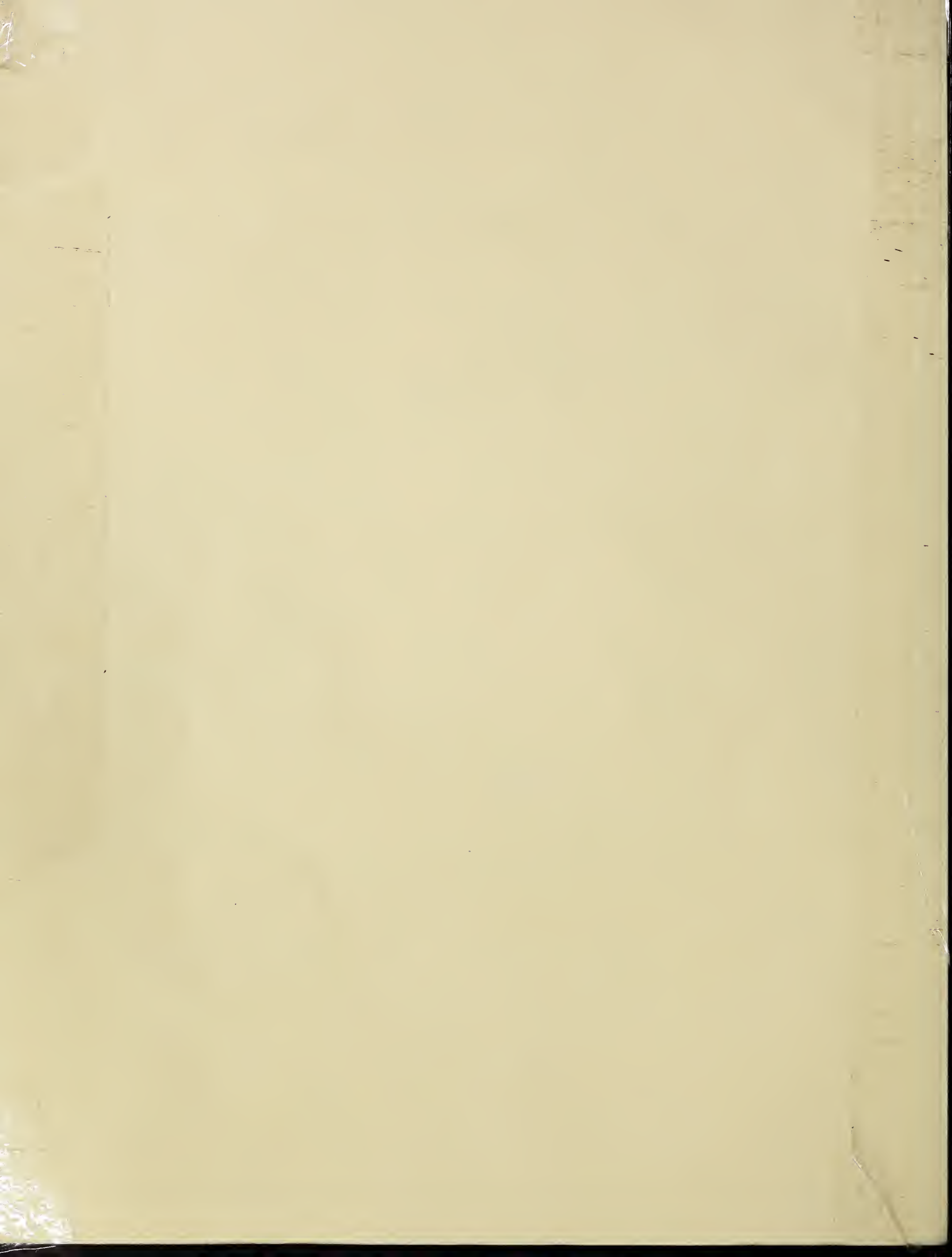


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Case Studies of the Pilot Implementation Communities

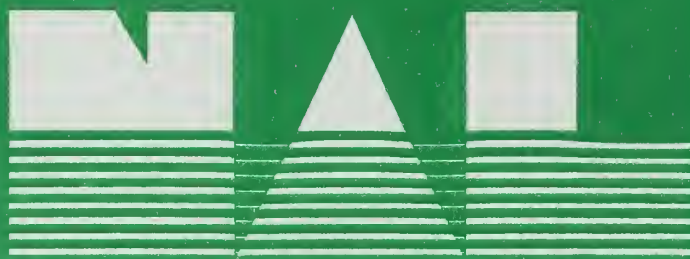
FINAL REPORT



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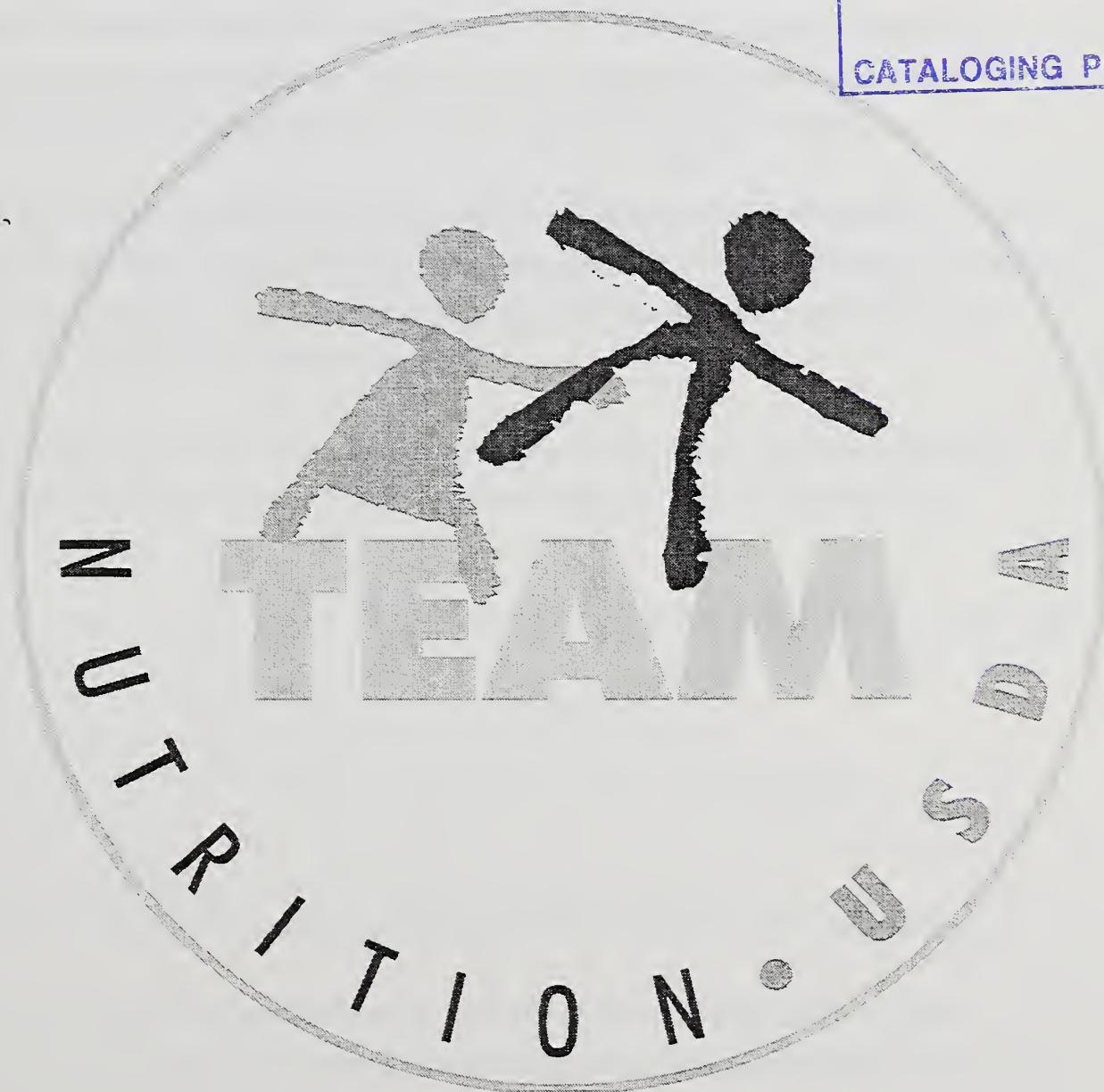
Case Studies of the Pilot Implementation Communities

FINAL REPORT

U.S.D.A., NAL

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CATALOGING PREP



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EXECUTIVE SUMMARY

The USDA's Team Nutrition (TN) is a school-based program that encourages children to make healthy food choices. Team Nutrition has been adopted by approximately 27,000 schools throughout the country for implementation in the 1997-98 school year. To document how Team Nutrition is implemented in a field setting and to evaluate whether it can be successful in changing students' nutrition skills, motivations, and behaviors, the USDA initiated the Team Nutrition Pilot Communities Project. Phase I of this project was conducted in seven school districts in the Spring of 1996, and Phase II was conducted in the same seven school districts in the Fall of 1996.

The evaluation of the pilot program includes a process evaluation to document the extent and nature of the implementation in the seven districts and an outcome evaluation to assess changes among students that result from the program. This case study report presents the results of the Phase I and Phase II process evaluation. It documents in detail how the program was implemented, what factors facilitated or impeded implementation, and how teachers, food service staff, and administrators reacted to TN materials and activities.

1. WHAT IS THE TEAM NUTRITION PROGRAM?

Team Nutrition is intended to support the USDA's School Meals Initiative for Healthy Children. It consists of two interrelated initiatives.

Multifaceted nutrition education is delivered through the media, in schools, and at home to build skills and motivate children to make healthy food choices. The cornerstone of the nutrition education is a set of classroom modules developed by Scholastic, Inc. for administration at three grade levels (Pre-kindergarten-kindergarten, 1-2, and 3-5). Each module consists of eight to nine lessons that include activities to involve students, peers, parents, teachers, and cafeteria staff.

Training and technical assistance is provided to school food service staff to enable them to provide appealing meals that meet the Dietary Guidelines for Americans. The support includes the dissemination of training standards and materials, grants to States to develop training programs, and a resource system to enable food service personnel to access education and training programs.

Based on the social marketing approach, Team Nutrition assumes that behavior is influenced by a variety of factors including intrapersonal, interpersonal, institutional, and community variables, as well as public policy. Thus, the program is designed to address all of these factors

by attempting to reach children through multiple channels—teachers, peers, parents, food service staff, the media, and the community. The distinguishing elements of the program include the focus on nutrition-related behavior change among students, the interactive nature of the classroom lessons, and the connections made between the classroom lessons and the cafeteria.

2. WHAT IS THE TEAM NUTRITION PILOT IMPLEMENTATION PROJECT?

The Team Nutrition Pilot Implementation Project was designed as an efficacy evaluation conducted in a field setting. It addressed the following question: does Team Nutrition have a positive impact when implemented as intended? The study also provides an opportunity to systematically describe implementation, which is the focus of this report. The USDA implemented the Team Nutrition Pilot Implementation Project in seven school districts—Des Moines, IA; Hamblen County, TN; Tulsa, OK; Vacaville, CA; Lawrence, MA; Passaic, NJ; and Cleveland, OH. With guidance from the USDA, these districts implemented the TN program in 19 elementary schools in the first phase and 18 elementary schools in the second phase of this project.

The pilot implementation called for teaching all of the Scholastic lessons in each of the relevant grades and conducting a set of core activities designed by the individual districts and approved by the USDA. These activities included cafeteria and school events, such as chef visits, and community-wide events such as nutrition fairs, media coverage, and parent food-tasting events.

3. OVERVIEW OF THE PROCESS EVALUATION STUDY METHODOLOGY

An intensive process evaluation was planned to obtain a variety of both qualitative and quantitative data at the district, school, and classroom levels. The objectives of the evaluation are to:

- Document the implementation of the TN program in the seven pilot communities.
- Offer meaningful guidance to schools (beyond the pilot program) that are committed to the principles of Team Nutrition but are at the early stages of implementation.
- Provide an explanatory context for the student outcome analyses.

Data collection took place before, during, and immediately after implementation. It included in-person and telephone interviews, activity logs, self-administered surveys, as well as classroom and cafeteria observations.

Because of resource constraints, this comprehensive data collection was conducted for a subset of the seven pilot communities — the same four districts selected for the outcome assessment — Des Moines, Hamblen County, Tulsa, and Vacaville. A more limited set of implementation data was collected from the three remaining school districts.

The case study reports were developed through a process of compiling, reviewing, and synthesizing information collected from all of the data collection instruments. Evaluation staff summarized information and used it to respond to a series of research questions related to:

- Describing the TN pilot communities.
- Describing TN activities in the pilot communities.
- Describing the reactions of key TN participants.
- Comparing the approaches to Team Nutrition across pilot sites.

This report represents the result of that information synthesis. An effort was made to keep the format of the case study reports consistent across all districts while highlighting the unique features of each district's experience.

4. WHAT ARE THE KEY FINDINGS?

Overall, each district was successful in implementing the various components of the program, although there were some differences in the intensity of, and approach to, implementation. The key findings, described in detail in Chapter 7 of this report are as follows:

Good nutrition habits are an important life skill that can be supported by school food service staff, school administrators, and teachers.

School administrators at TN schools consistently commented that nutrition education is important for students. In addition, ninety-nine percent of teachers surveyed prior to the start of Team Nutrition indicated interest in incorporating nutrition activities into their classrooms. Ninety-eight percent of teachers surveyed prior to implementation agreed that good nutrition can positively affect students' class performances.

Despite support for nutrition education among school food service staff, school administrators, and teachers, the successful introduction and institutionalization of nutrition education in the classroom faces a number of challenges.

Given the increasingly diverse messages and advertisements attempting to influence students about health issues (e.g., tobacco, drugs, AIDS, safety), teachers and administrators face a significant challenge in communicating Team Nutrition's message in a way that students find meaningful, relevant, and important enough to remember and act upon.

Introduction of nutrition education curriculum is made more challenging by other competing curricular demands and limited school resources. In some states, teachers were focused on helping their students prepare for required proficiency tests. In addition, when funds or parent support were not available, teachers purchased food for activities with their own money.

In general, the schools and teachers involved in the pilot study were able to implement most of the classroom requirements of the pilot project.

On average, teachers taught more than seven of the eight or nine required lessons for each module. TN students were exposed to an average of 14.4 hours of TN lessons in Phase I and 16 hours in Phase II over a 2-month period.

The pilot communities exhibited a great deal of creativity in planning and conducting a variety of school-wide and community nutrition events that supported the curriculum's messages. Every district sponsored or participated in a community-wide event that attracted from 100 to 1,000 participants.

One example of a community-wide event is "Fat Facts Week" during which students created posters highlighting their favorite snacks (and their fat content) and parents and students sampled and rated a variety of low-fat items during the school lunch. Another is the "Olympic Celebration" for which a TN training meal was provided, and the connection between nutrition and physical activity was reinforced.

District food service staff have been actively involved in Team Nutrition by supporting classroom and school-wide activities and by working toward healthier menu choices for children.

The food service staff typically conducted cafeteria tours and provided food samples, information, and other supplies for various classroom activities. In Phase II, some cafeteria managers went into the classrooms to talk with students. The pilot communities continued to take steps to alter menus, food preparation practices, and procedures to produce healthier, low-fat meals. This is an incremental process, however, which is necessarily tied to the existing cycles for staff training and food vendor contract awards.

Although teachers, food service staff, and project coordinators reported that Team Nutrition required a significant effort to implement, they generally agreed it was a very positive experience for the students.

Eighty-one percent of the teachers surveyed in Phase I and 84 percent in Phase II agreed that the Scholastic materials made it easy to teach nutrition and indicated that they would teach nutrition in the future if the same materials were available. During interviews with the fourth-grade teachers, this kind of insightful remark was typical: "Hearing the children talk about food labels and nutrition choices outside of class tells me that they learned something."

In general, the food service staff members who were interviewed were supportive of the program and commented on changes in students' eating behaviors. One staff member remarked, "When I first found out about Team Nutrition, I thought, 'Oh no, I don't want to do this,' but after I saw the kids' reactions, my attitude changed a lot. I'm very positive about the program now."

All of the pilot districts engaged community partners to participate in school- and community-wide events. Community partners assisted in the implementation of Team Nutrition by donating time, food, and educational materials.

A wide range of organizations were involved in school and community events. They included hospitals, insurance companies, universities, Extension Services, restaurant

and chef associations, food vendors, grocery stores, and health departments to name a few. Outreach to community partners was a new activity for some of the districts, but they found that organizations were willing to participate if provided well-defined roles and responsibilities.

Although working closely with the media was a relatively new experience for the school districts, almost every site generated TV, radio, and newspaper coverage for the school-wide and community activities.

For example, there were newspaper articles on making a nutrition-packed school meal and school recipes to make at home, as well as radio spots done by students.

In addition, USDA contributed to student media exposure by distributing public service announcements that use the Disney characters, Pumba and Timon, to talk about good nutrition on television.

Involving parents represented both a goal and a challenge to Team Nutrition. The efforts to reach parents through the media, school-wide and community events, and take-home materials appear to have been reasonably successful.

Most parents were aware of some TN event, typically classroom activities. In addition, many parents also indicated that they had participated in some home activities with their child. In Phase II, approximately a third of parents reported participating in an event in their child's school.

Every site faced implementation hurdles—some were common across sites, others were unique to a particular site. Hard work made the pilot implementation project successful, but the roll-out of TN will be smoother if districts heed the lessons learned by the pilot project sites.

- *Encourage teamwork.* Involve teachers, principals, food service staff, the administration, and community partners in planning before implementation to generate awareness and encourage their sense of participation in decision-making for the project. Enthusiastic support will help create a very successful program implementation. Continue to keep everyone involved in decision-making and planning throughout the project. Teams that consist of

representatives from the food service and curriculum departments can divide the workload and bridge any gaps that may exist between the two departments.

- *Focus attention on parent involvement strategies.* Greater exploration and utilization of parental involvement are needed to enhance parental participation in nutrition-related activities with their children and improve their overall knowledge of healthy nutrition habits.
- *Provide training or technical assistance to TN coordinators.* If possible, provide training or technical assistance on media relations to the district representatives interested in implementing Team Nutrition. Also, building community partners and engaging the community in this type of project requires knowledge and skills related to coalition building and how to approach potential partners.
- *Allow enough time for planning and development activities.* It is important to determine, prior to implementation, how the lessons may be successfully integrated with other core subjects and how responsibilities can be shared across teachers, food service staff, parents, and community partners. Time is also needed to establish communication links between teachers and food service staff, as well as to build community partnerships. Spreading implementation over the whole school year will help to alleviate these time management concerns.
- *Add physical activity component.* Recognize the connection between health, food consumption, and physical activity, and support development of a physical activity component to link to Team Nutrition as recommended in the Scholastic modules. The benefit of doing so creates a connection with established parts of the curriculum and is an incentive for students.
- *Capitalize on established networks, contacts, and events.* Recognize that any current involvement in professional and community organizations can assist in leveraging resources and generating ideas in support of school-wide health initiatives. In addition, support may be available from other educational institutions through student internships or class projects.
- *Provide coordination and resources for obtaining relevant background information and classroom materials and supplies.* Schools and districts should be prepared to provide assistance to teachers in assembling materials and supplies for classroom lessons. Teachers need resources and materials that will provide them with background information on nutrition, particularly if they have not taught nutrition before. In the pilot communities, TNCs provided this support to teachers.
- *Be flexible.* In schools where teachers team-teach according to specific academic areas, it may be more effective if the teachers select specific activities from the lessons that are relevant to the subjects they teach rather than attempt to teach entire lessons. This may help to minimize any concerns about sufficient time for teaching the basic academic subjects.

5. OUTCOME EVALUATION

In addition to the process evaluation described in this report, an outcome evaluation was conducted to assess the impact of Team Nutrition. The basic question addressed by the outcome evaluation is whether students in the implementation schools exhibited changes in key nutrition-related attitudes, motivations, and behaviors between baseline and post-implementation that were not found among the comparison school students, and can thus be attributed to Team Nutrition.

The findings from the outcome evaluation, can be found in the USDA report, Team Nutrition: Pilot Study Outcome Report. Together with this case study report, these documents provide schools, policy makers, and the research community with encouragement and guidance for initiating similar nutrition education programs.

CHAPTER 1: TEAM NUTRITION—AN OVERVIEW

1.1 BACKGROUND OF TEAM NUTRITION

The USDA School Meals Initiative for Healthy Children is a comprehensive plan that aims to ensure that children have healthy meals at school. A major part of this plan is an update of nutrition standards that requires school meals to meet the Dietary Guidelines for Americans. Recognizing that simply publishing a regulation is not likely to change children's diets, USDA established Team Nutrition (TN) to ensure that schools are able to implement the plan and that students avail themselves of the healthier meals offered.

The mission of Team Nutrition is ...

To improve the health and education of children by creating innovative public and private partnerships that promote food choices for a healthful diet through the media, schools, families, and the community.

Team Nutrition is a nationwide, integrated program that consists of two interrelated initiatives to help implement the School Meals Initiative for Healthy Children. **Multifaceted Nutrition Education** is delivered through the media, in schools, and at home to build skills and motivate children to make food choices for a healthful diet. The program emphasizes the school setting to reinforce and support nutrition policy changes in school meals. In-school education is provided through the use of flexible curriculum modules designed by Scholastic, Inc. in partnership with the USDA. The materials bring focused, science-based nutrition messages to children in a language that they understand while strengthening social support for healthy food choices among parents, educators, and food service professionals. The goals of TN include: eating less fat; eating more fruits, vegetables, and grains; and eating a variety of foods.

Training and Technical Assistance is the second focus of Team Nutrition. The program is designed to ensure that school nutrition and food service personnel have the education, motivation, training, and skills necessary to provide healthy meals that appeal to children and meet the Dietary Guidelines for Americans. It also provides personnel with a clear vision of their roles in the school community; that is as integral team members of comprehensive school nutrition programs. This training and technical assistance includes the dissemination of training standards and materials, grants to States to develop self-sustaining training programs, and an electronic resource system available on the Internet and designed to foster communication among interested professionals.

Team Nutrition has already been adopted by approximately 27,000 local schools throughout the country. These TN schools demonstrate their commitment to meeting the Dietary Guidelines for Americans by distributing TN materials to teachers, children, and parents; by involving school food service, teachers, students, families, and administrators in lively and entertaining nutrition activities; by sharing successful strategies and programs with other schools; and by engaging private and public partners in the community to support TN activities.

1.2 THE TEAM NUTRITION CONCEPT

Team Nutrition is grounded in a theoretical framework that provides an explanation of how individuals make behavior choices – social learning theory (SLT) (Bandura, 1986 and Perry et al., 1990). SLT is the underlying theory for many research studies focused on changing eating behaviors, such as those promoted in Team Nutrition.

The premise of SLT is that personal characteristics, environmental factors and behaviors interact dynamically. In other words, behavior both affects and is affected by individual and environmental factors. Further, each of these dimensions has multiple components, including:

Personal Characteristics: expected outcomes, relevant skills and knowledge, values and attitudes, self-efficacy;

Environmental Factors: availability of role models, opportunities to engage in pertinent behaviors, social group norms and expectations, incentives and rewards; and

Behaviors: intentions to act, specific behavior choices, and typical behavior.

Nutrition education programs grounded in SLT rely on multiple personal and environmental factors to influence behavior. Individual characteristics, like skills and motivation, are both objects of and vehicles for change.

In their review of nutrition education intervention in school settings, Contento et al. (1995) identified 23 studies that employed a SLT approach. Examples include the Know Your Body Program developed by the American Health Foundation (Walter 1989); multiple school-based interventions developed by the Minnesota Heart Health Program (Perry 1985, 1987, 1988); the Children and Adolescent Trial for Cardiovascular Health [CATCH] (Perry 1990); the Heart Smart Program (Arbeit, 1992); and Gimme 5 (Domel, 1993) among others. In all of these initiatives, the investigators designed programs that addressed each of the three factors just described. They also included numerous environmental components such as classroom

curricula, changes in school lunches, school-wide events, family involvement activities, messages delivered through mass media, identification of healthier food choices in grocery stores and restaurants, and increased time in physical education classes.¹

In developing and implementing the TN program, USDA relied on social marketing concepts and methods that have been employed in numerous nutrition education and public health programs (Andreasen, 1995; Lefebvre, 1988). Social marketing is a planning process that incorporates psychological theories of behavior change, such as SLT, into program development. It has an ecological perspective that assumes behavior is influenced by a variety of factors, including intrapersonal, interpersonal, institutional, and community variables, as well as public policy.

Social marketing is characterized by its focus on creating programs that meet the needs and desires of specific groups of people. For this pilot project, these groups include students, their teachers, food service staff, district TN coordinators, and school administrators. Each group has different needs and concerns relevant to the project. For example, students prefer to learn in an interactive and engaging environment and have lunches that taste good. Teachers want to learn basic nutrition concepts so they are comfortable teaching the curriculum, and they also need to balance the competing curricular demands on classroom time. Food service staff need to learn new meal preparation methods, and they also want to be viewed as making a contribution to the quality of the school experience. District TN coordinators need to learn how to implement the various program activities while balancing this responsibility with their many other demands. Finally, administrators need ways to juggle and appropriately distribute limited resources and to effectively motivate staff to assume the additional responsibility of a new initiative. In developing the materials for the pilot project, and in planning and implementing the project itself, attention was given to addressing the needs and preferences of each of these groups.

The cornerstone of the social marketing approach is the development of a "marketing mix" for each discrete group of people. The four P's of this marketing mix – product, price, place, and promotion—are described on the next page.

¹ Physical activity is particularly important as many behaviorally focused nutrition interventions are often incorporated into comprehensive school health education initiatives. CATCH, for instance, targeted delaying the onset of smoking behavior and increasing students' level of physical activity along with encouraging better nutrition behaviors (Perry 1990).

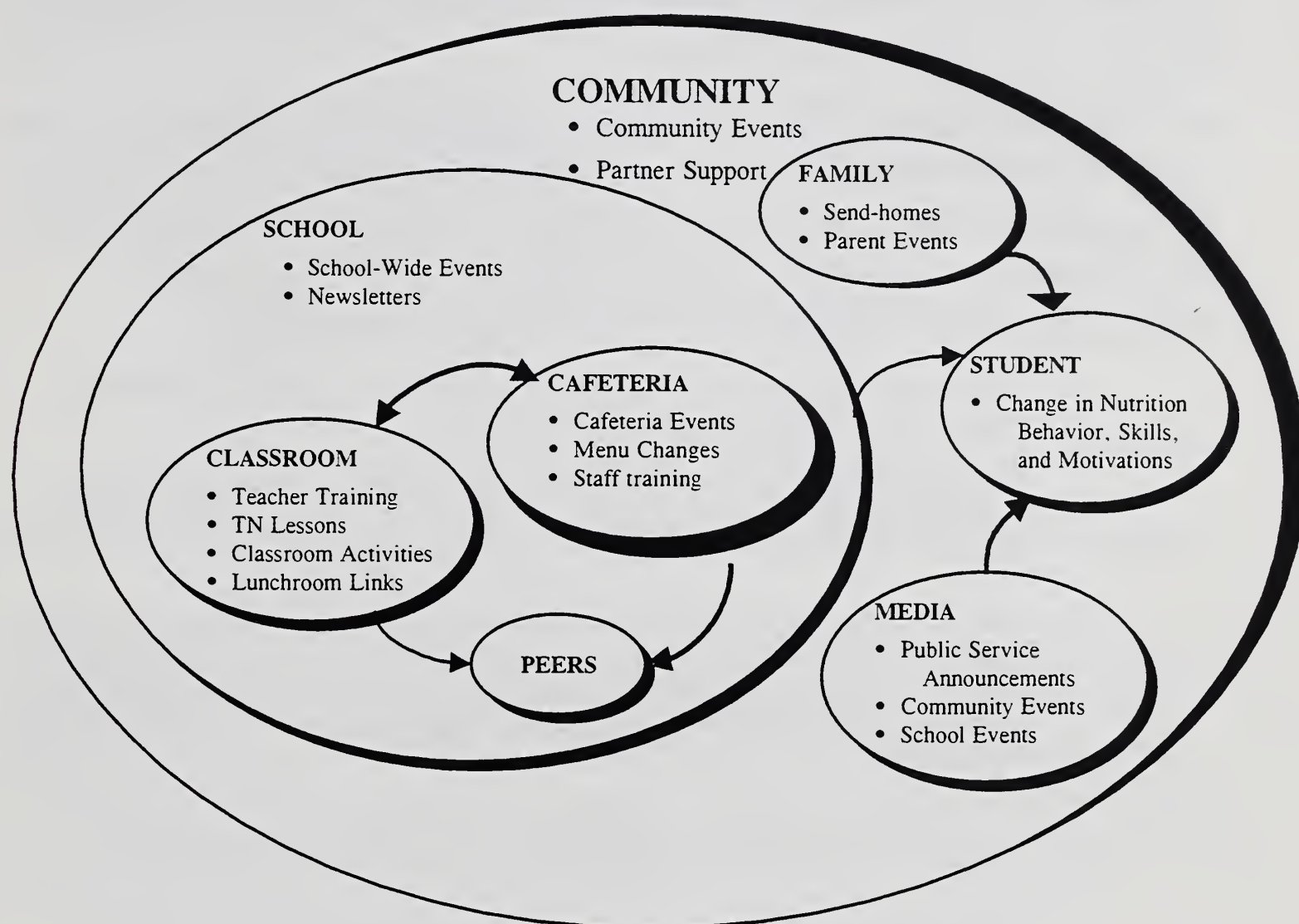
- **Product.** Social marketing "products" are typically behaviors rather than tangible items that characterize commercial marketing practice. The product of Team Nutrition is more nutritious eating behaviors among students. For teachers, food service staff, coordinators, and administrators in the pilot, it is implementing the program and participating in the evaluation activities.
- **Pricing.** Pricing represents the costs of the product. Social marketing also recognizes that adopting new behaviors, like acquiring new products, has a number of associated "costs"—though not necessarily fiscal ones. TN "prices" include additional curricula, classroom activities, community activities, and food service training, each of which represents an investment of time and resources by the individual teachers, parents, schools, and school districts, including the food service staff and community partners.

Programs such as Team Nutrition are structured to provide classroom activities that can be integrated into existing curricula without relinquishing time spent on core subjects. In addition, teacher training and technical assistance for food service staff help to minimize resource expenditures and maximize the opportunities to leveraging resources through community partner organizations. Additional resources were given to the pilot schools to offset the costs associated with participating in the evaluation.

- **Placement.** Placement involves making the resources available to the consumer to facilitate behavior change. How information and materials are distributed and then implemented by TN schools is thus the third area of planning a social marketing program. Previous trials such as CATCH have demonstrated that school-based educational programs involving multiple channels such as classrooms, food service, community, and families can be successful at changing student eating patterns in different areas of the country. The TN materials were distributed to all schools in the pilot project as they will be, albeit in smaller quantities, in the larger TN initiative. The school representatives and teachers then disseminate the messages through the classroom, the cafeteria, and take-home activities.
- **Promotion.** Promotion is required to encourage adoption and maintenance of the desired behavior. Therefore, the final task of planning a social marketing program is developing the communication tools to promote adoption of the program message and behavior change. In the pilot project, promotion (or communication) tools included curriculum, school and community-based activities, and PSAs using familiar Disney characters aimed at the children to encourage them to adopt the behavior. To facilitate adoption of the program, teachers attended two training sessions to learn the curriculum and also received lesson plans to aid implementation. Coordinators received orientation materials and had biweekly telephone calls with evaluation staff. School food service staff received the technical assistance materials developed by the USDA and training by the districts, and administrators received orientation materials.

A graphic model of the TN approach to nutrition education is provided in Figure 1A.

FIGURE 1A. TEAM NUTRITION APPROACH TO EFFECTIVE NUTRITION EDUCATION



1.3 TEAM NUTRITION PILOT IMPLEMENTATION

The purposes of the TN Pilot Implementation Project are to evaluate whether the TN approach results in healthier food choices by students, as well as to systematically document the implementation process. Evaluation data will be used to inform future decision-making and guide technical assistance for the broader TN effort.

The pilot project was implemented in two phases—once in the Spring of 1996 and again in the Fall of 1996. Phase II was essentially a replication of the Spring implementation with a new set of students. However, participating districts made changes in the activities conducted in Phase II based on their experiences in Phase I. The two-phase design served multiple purposes—to assess the reliability of TN effects and to evaluate the effects of a somewhat more "mature"

program when it is implemented for the second time.² In addition, students who participated in the Phase I pilot were surveyed again during Phase II to ascertain whether any changes that occurred in Phase I are sustained over time.

The TN Pilot Implementation Project is designed as an efficacy evaluation conducted in a field setting. It addresses the following question: can Team Nutrition have a positive impact when implemented as intended? The study also provides an opportunity to systematically describe implementation, which is the focus of this report. Because it is designed as a model intervention, the pilot project differs from the overall TN effort in several ways:

- The pilot schools received one set of the Scholastic classroom materials for each teacher participating in the intervention.
- Representatives from each of the pilot communities were oriented to Team Nutrition, the pilot project, and the evaluation during a 2-day planning meeting at USDA.
- Each of the participating school districts was provided with two teacher training sessions (4 hours each) for all implementing teachers in Phase I. The first session took place just prior to the start of the intervention, while the second was conducted 3 to 4 weeks after the intervention began to incorporate teacher experiences.
- Each district submitted an implementation plan for the pilot and received feedback and technical assistance from USDA in formulating the plan.
- The coordinators in each of the pilot communities had regular contact with USDA staff, as well as evaluation contractor staff.
- Each pilot community received a stipend to support its involvement in the evaluation of the program. Although none of this money was to be spent on program implementation, it was a useful resource for the districts, provided motivation for participation, and compensated the school districts for the time they devoted to participating in the rigorous evaluation protocol.
- The pilot schools experienced a degree of visibility that is not as likely for TN schools across the nation.

In contrast, school staff and teachers participating in TN (but not in the pilot program) receive a start-up kit, but no formal in-person orientation or training. These start-up kits contain a number of items to help implement TN in schools, including TN manuals, posters, banners, and a video.

² Although teachers and staff in Phase II were more experienced with Team Nutrition, students were at a different level developmentally because Phase II takes place at the start of the school year.

While the pilot communities benefited from some support that other TN schools will not receive, they also operated under some constraints imposed by pilot implementation and evaluation requirements. These included:

- Limited preparation time in Phase I due to the need to implement TN shortly after receipt of the Scholastic materials. This schedule was necessary to accommodate implementation and evaluation in the 1996 Spring semester.
- Limited time (roughly 8 weeks) to actually teach the Scholastic lessons and conduct the corollary TN activities. In Phase II, the time constraints were heightened by the demands of concurrently starting a new school year and teaching children who were not always developmentally ready for specific TN activities.
- Constraints on enlisting the media to promote events due to the need to balance publicity against contamination of the comparison schools.
- Time required to support the evaluation effort that might otherwise have been spent on TN implementation.

Although distinguished by these supports and constraints, the TN Pilot Implementation Project was conducted in real world settings—not a laboratory environment. The pilot communities faced obstacles in implementing the program that many schools might encounter, including competition for class time from other subjects and preparation for testing, food service contract changes, and a potential teacher strike in one district. Thus, the lessons learned from the pilot should prove valuable to schools around the nation that choose to become TN schools.

1.3.1 District, School, and Classroom Selection

In July 1995, the USDA issued announcements through its regional offices to recruit school districts to participate in the Pilot Implementation Project. Public school districts that participate in the National School Lunch Program were eligible to apply. The goal of the recruiting was to select at least one school district from each of the seven USDA regions; however, participation in the pilot was completely voluntary.

Project requirements included district implementation of an intensive form of Team Nutrition and participation in the pilot evaluation. The application for becoming a TN pilot community required answers to a set of questions about the district's ability to carry out the project and a resume for the district's proposed Team Nutrition Coordinator (TNC). In addition, districts were asked to nominate at least two pairs of elementary schools [one of which would be later randomly assigned to the treatment condition (implementation schools) and the other to the control

condition (comparison schools)], and to provide information on a specified set of variables for each school. They were instructed to make sure each pair were equivalent with respect to the following: number of students; the percentage of students eligible for free or reduced-price lunches; the ethnic composition of the school student body; the extent of existing nutrition education efforts; and the type of cafeteria service provided (e.g., menu choices available and type of kitchen).

The seven TN pilot districts were chosen competitively from the applications received. The selection criteria included the district's ability to carry out the project, a desire to have a district in each USDA region, and the need to have cost-efficient access to the communities for evaluation purposes. Applications were approved from one district in each of the seven USDA regions.

The seven school districts chosen to participate in the pilot were:

- Des Moines, IA;
- Hamblen County TN;
- Tulsa, OK;
- Vacaville, CA;
- Lawrence, MA;
- Passaic, NJ; and
- Cleveland, OH.

The Des Moines and Tulsa school districts each nominated four pairs of schools. The Hamblen County, Vacaville, Cleveland, and Passaic districts each nominated two pairs of schools, and the Lawrence district nominated three schools.

All of the districts were expected to implement a comprehensive TN program. However, four of the seven school districts (IA, TN, OK, and CA) were selected to participate in an intensive process and outcome evaluation of the TN Pilot Implementation Project. The remaining three (MA, NJ, and OH) were the subject of a more limited process evaluation (basic process) and did not participate in the outcome evaluation. The four districts chosen for the intensive evaluation were selected because they were able to meet the application deadline and demonstrated a strong capacity for both implementation and evaluation.

In these four districts, one half of the school pairs were randomly assigned to the treatment condition (i.e., to implement TN). The others became comparison sites. This process ensured that each school nominated had an equal chance of being selected as a TN school. In the basic process districts, all of the nominated schools operated as TN sites.³ Table 1a provides an overview of the number of implementation schools in each phase by district.⁴

The seven pilot districts selected an appropriate grade for implementing each of the three Scholastic modules. For evaluation purposes, the outcome evaluation districts were asked to implement Module 3 in the fourth-grade.

Table 1a. Number of Pilot Implementation Schools in Each District

School Districts	Pilot Schools	
	Phase I	Phase II
Des Moines, IA	4	4
Hamblen County, TN	2	2
Tulsa, OK	4	4
Vacaville, CA	2	2
Lawrence, MA	3	2
Passaic, NJ	2	2
Cleveland, OH	2	2
TOTAL	19	18

Six of the seven districts implemented each of the three Scholastic Modules. Unlike the other districts, Lawrence only implemented one Scholastic Module (3) in Phase I and two Scholastic Modules (1 and 2) in Phase II. The grades selected by each district and the number of classes in each are displayed in Table 1b below. Between phases, changes in the number of classes using TN are likely due to changes in the number of teachers or students at each grade level.

³ For the remainder of the report the study sites are referred to as implementation and comparison schools.

⁴ The third Lawrence implementation school dropped out in Phase II because of the lack of Spanish-language materials.

Table 1b. Grades Selected and Number of Classes for TN Implementation by Each District

	Module								
	Module 1 (Pre-K-K)			Module 2 (Grades 1-2)			Module 3 (Grades 3-5)		
	Grade Selected	# of Classes		Grade Selected	# of Classes		Grade Selected	# of Classes	
		Phase			Phase			Phase	
School District		I	II		I	II		I	II
Des Moines, IA	K	10	10	1	11	11	4	11	10
Hamblen County, TN	K	6	8	1	5	6	4	6	6
Tulsa, OK	K	11	11	2	10	10	4	11	9
Vacaville, CA	K	7	6	2	8	9	4	9	8
Lawrence, MA	K	NA	3	2	NA	7	5	7	NA
Passaic, NJ	K	4	5	1	9	8	5	8	8
Cleveland, OH	K	4	2	1	5	1	3	6	5

1.3.2 Implementation Requirements

Upon being selected for the pilot project, each district was required to submit a detailed implementation plan to the USDA. To facilitate development of these plans, as well as to educate the districts on their role in the pilot evaluation, a meeting was held in Washington, DC, on November 6-7, 1995. The meeting included key personnel from USDA, representatives from the seven selected pilot evaluation communities (including the TNC), Scholastic, Inc., and evaluation contractor staff. It included presentations by each of the seven participating school districts, an overview of the TN components, a description of evaluation activities to be conducted, and instructions to the seven districts on what would be required during implementation.

1.3.2.1 Scholastic Classroom Modules

The cornerstone of the TN program is a set of classroom materials developed by Scholastic, Inc. As previously stated, the TN classroom materials consist of three modules, one for each of the following range of grades:

- Module 1: Pre-Kindergarten to Kindergarten (Pre-K to K).
- Module 2: First- and Second-Grades (1-2).
- Module 3: Third- through Fifth-Grades (3-5).

Although based in the classroom, the Scholastic modules are designed to involve other students in the school as well as the school cafeteria staff and parents. Cafeteria staff are involved through activities linked with the lunchroom, such as food tastings. Parents are involved with TN lessons through newsletters they receive at home, helping their children with homework, and supporting their children's participation in classroom activities (e.g., sending in a recipe). Each of the modules comprises a set of eight or nine lessons and contains teacher's guides, classroom activities, videos, posters, student magazines, and parent take-home pieces. The lessons are designed to involve students in assessing their own nutrition and in making decisions about what to eat.

All three modules include activities that can be integrated with other subject areas such as language arts, music, science, or social studies. For example, in Module 1 the lesson on how our senses learn about foods includes a science activity in which the students smell foods while blindfolded and an art activity in which students plan menus involving foods of a particular color for each day.

The modules vary with respect to organization. In general, Module 1 offers several activities relevant to the particular theme of each lesson. Examples include visiting a farm or dairy to see where particular foods come from and declaring each day a different color day to encourage students to try a food of that color. Modules 2 and 3 are more structured with similar types of activities for each lesson and a recommended order of presentation. Activity categories include a Getting Started session which is intended to engage student interest, a Home Connection intended to get parents and students interacting, and a Lunchroom Link which serves as a place and occasion for students to learn about healthy diets and apply what they have learned.

Fourth-graders in the outcome evaluation districts all experienced Module 3. This module is called "Food Works," and it emphasizes the relationship between healthy bodies and diet, the skills needed to make wise food choices, and the wide variety of food available. A brief description of the lessons, materials, and activities associated with each module is provided in Appendix A.

1.3.2.2 Teacher Training and Classroom Implementation

As participants in the TN Pilot Implementation Project, each of the seven districts agreed to participate in teacher training and to teach the lessons in each Scholastic module to all classes in the appropriate grade.

In Phase I, training was provided to all teachers with any TN teaching responsibilities. This training was conducted onsite in each district by Prospect Associates. Training included one session prior to implementation and a second session 3 to 4 weeks later. It should be noted that the actual Scholastic modules were not available at the time of the initial training session. By the second training session teachers were expected to have taught at least two TN lessons.

The purpose of the training was to educate the teachers in the implementation schools about the TN Pilot Community Project overall; to provide them with basic nutrition education on the Dietary Guidelines for Americans, the Food Guide Pyramid, and reading food labels; to provide rationale for, and address techniques for effecting behavioral change in children; to introduce them to the Scholastic nutrition education modules; and to clarify their roles and responsibilities as educators who are implementing these modules in their classrooms as part of the pilot project.

As a result of this training, teachers were expected to be able to:

- Define and discuss general principles of healthy eating, the importance of teaching nutrition, nutrition guidelines, and the link between diet and disease prevention.
- Use a range of instructional methods and preparation tools and identify resource materials to effectively teach the Scholastic Inc., TN modules.
- Demonstrate principles of social learning instruction to influence behavior change in students.

There was no formal training in Phase II because most teachers had already been trained. New teachers were trained either by the TNC or by teachers who participated in the program in Phase I.

TN pilot school teachers were expected to implement all eight of the Scholastic lessons in Modules 2 and 3 and at least eight of the nine lessons in Module 1 for the selected grade in each phase (Spring and Fall). For each lesson in Modules 2 and 3, the teachers were required to conduct, at a minimum, the Getting Started session and each of the activities for the lesson

(two or three depending on the lesson). They were also required to complete the Lunchroom Link for at least four of the lessons and to use the parent and student reproducibles and video as directed by the Scholastic module for each of the lessons. Because the lessons for Module 1 are less structured and include different numbers of suggested activities, there were no instructions for specific activities beyond completing three activities in each lesson.

1.3.2.3 School and Community Core Activities

In addition to the classroom component, TN implementation schools were also expected to:

- Conduct at least two school-wide cafeteria events in each implementation school in each phase.
- Conduct at least three parent contact activities in each implementation school in each phase.
- Conduct at least two chef activities in each implementation school in each phase.
- Conduct at least one district-wide TN community event in each phase.
- Conduct at least one district-wide media event in each phase.

While some of those activities could overlap, all pilot schools were expected to conduct at least five core activities during each phase.

1.3.2.4 School Food Service Staff Training

Finally, TN implementation schools were required to:

- Conduct at least 10 hours of food service staff training across the two phases.
- Institute menu changes to make menus consistent with the Dietary Guidelines during the 1996-97 school year.

Concurrent to the Pilot Implementation, two new menu planning systems were made available to further the goals of the School Meals Initiative for Healthy Children. These include the "food-based" approach and "NuMenus." The first option uses traditional meal patterns for school lunch—one meat/meat alternate, 2 servings of fruits/vegetables, a bread/grain component, and fluid milk. NuMenus is a computer-based menu planning system which allows menus to be planned that meet specific nutrition standards. This USDA-approved software provides

technical support to analyze the nutrient content of menus and to modify menus if they do not comply with the nutrition standards.

1.3.2.5 Additional TN Schools

The seven pilot districts could also nominate additional TN schools. These schools received some of the same program tools and materials but on a more limited scale. While these schools committed to the mission and principles of Team Nutrition, they did not commit to any specific set of TN activities or participation in the evaluation.

1.4 TEAM NUTRITION PILOT EVALUATION

The TN pilot evaluation provides an assessment of outcomes among students (outcome evaluation) and documents the implementation of Team Nutrition in the pilot communities (process evaluation).

1.4.1 Team Nutrition Outcome Evaluation

Although TN schools received all three modules, the outcome evaluation focuses on changes in the nutrition behavior of fourth-grade students as well as their skills, knowledge, motivations, and attitudes regarding healthy eating (Module 3). Specifically, it addresses changes among students related to the primary objectives of Team Nutrition:

- Eat more fruits, grains, and vegetables.
- Eat a greater variety of foods.
- Eat less fat.

These changes are assessed separately in Phase I and Phase II of the pilot program. The basic research design involved comparing data before and after the pilot implementation for both implementation and comparison schools in the four outcome districts. The data sources include cafeteria observations of fourth-grade students and surveys of students, parents, and teachers.

Some descriptive data from the surveys are included in this report. For example, parents' awareness and involvement in TN, as well as teachers' motivation to teach nutrition, are captured in these surveys and described here. However, more extensive analyses of these data are available in the Team Nutrition: Pilot Study Outcome Report.

1.4.2 The Team Nutrition Pilot Process Evaluation

The primary objectives of the TN process evaluation are to:

- Document the implementation of the TN program in the seven pilot communities.
- Offer meaningful guidance to schools beyond the pilot program.
- Provide an explanatory context for observed outcomes among students.

To meet these objectives, a number of specific research questions were developed, and relevant data collection efforts carried out. Research questions include the following:

Description and Comparison of the Team Nutrition Pilot Communities

1. What is the makeup of the communities with respect to basic demographic characteristics and initial status of nutrition education?
2. How many and what kinds of schools/classes are involved in the pilot implementation?
3. Prior to Team Nutrition, what were the attitudes of teachers in the implementation schools toward teaching nutrition?

Description of Team Nutrition Activities in Pilot Communities

1. What is the nature of teacher training and their perceptions of its effectiveness?
2. How many of the classroom lessons are taught? What is the duration of each? What activities and materials are used?
3. What school-based activities are implemented? How well are they received?
4. How involved are parents in the TN activities?
5. What community events are held, and how are they implemented? How well are they received?
6. How are community partners, such as chefs, recruited and involved in TN activities?
7. How successful are the districts in garnering media attention for TN efforts?
8. What food service changes or plans have been made in order to meet the Dietary Guidelines? When are the changes introduced? What type of training is provided to food service staff?

Comparison of Approaches to Team Nutrition Across Pilot Districts

1. Do the pilot communities differ in the degree to which they implement the requirements of the TN pilot? If so, how?
2. In what ways are the pilot communities similar and different in their implementation of Team Nutrition?
3. Do the pilot communities differ in the way Team Nutrition is received by teachers, parents, food service staff, etc.? Can these differences be ascribed to differences in approaches to implementation?
4. What lessons can be shared with other school districts based on the pilot community experience?

1.4.3 Implementation of the Team Nutrition Pilot Process Evaluation

As previously stated, four of the districts—Des Moines, Hamblen County, Tulsa, and Vacaville—were selected to participate in the intensive process and outcome evaluation of the pilot project. The remaining three—Lawrence, Passaic, and Cleveland—participated in a limited process evaluation (basic process). The differences in the intensive and basic process evaluations are described in sections 1.4.3.1 and 1.4.3.2.

1.4.3.1 Basic Process Evaluation

The process evaluation was designed to measure the nature and magnitude of the TN effort in the pilot districts. To answer the research questions posed above, a number of data collection efforts were implemented as part of the basic process evaluation. These included the following for all seven communities:

- Extant data on school and district characteristics.
- District TN implementation plans and quarterly progress reports.
- Planning diaries completed by the district TNCs.
- Data for the menu analysis including: weekly menus; weekly production records (centralized and site-based), number of meals procured, recipes for all items, nutrition/product information for individual foods, preparation methods used for individual foods.
- An initial interview with each district TNC.

- Regular telephone interviews with each district TNC to monitor progress of the implementation.
- Interviews with school principals at the start of each phase in each implementation school.
- TN Core Activity Logs filled out by the person responsible for directing each school-based or community activity.
- TN Teacher Activity Logs filled out by all implementing teachers for each Scholastic lesson taught.

In addition to the above data collection efforts, the teachers implementing Team Nutrition in their classrooms completed surveys that were conducted in group settings before and after the intervention. The questionnaires assessed their nutrition knowledge, attitudes, and behavior, as well as their attitudes toward teaching nutrition. The teacher surveys also provided useful information on teacher involvement in TN activities and perceptions of TN materials, which could also serve to explain differences in the intensity of implementation across the pilot sites.

1.4.3.2 Intensive Process Evaluation

In addition to providing the information described above, the four outcome districts also participated in the following data collection efforts:

- One classroom observation of each fourth-grade implementing teacher to assess fidelity to the Scholastic lessons (Phase I only).
- Completing a Community and School Information Form (Phase I only). The purpose of the instrument was to obtain information to supplement the profile of each Team Nutrition pilot community and schools.
- A 3-4 day site visit at the end of each phase, including the following:
 - An extended interview with the district TNC regarding the various components of the intervention and how they were carried out.
 - Interviews with selected TN community partners to assess the nature of their relationships with the pilot implementation schools.
 - Interviews with fourth-grade implementing teachers in Phase I and teachers from each implementation grade in Phase II to probe in depth their experiences with Team Nutrition.

- Interviews with cafeteria managers and line workers in each cafeteria to determine their impressions and experiences with Team Nutrition.
- Observations of cafeteria food preparation practices to identify any changes that might affect student food selection and consumption.

Finally, several of the outcome evaluation instruments, specifically the parent, teacher, and student surveys, included several items designed to gather information that would enrich the process evaluation. Because the outcome evaluation is focused on fourth-grade students, the parent and teacher surveys were conducted among parents and teachers of fourth-graders in the four intensive process communities. These instruments are described below.

- The parents of fourth-grade students were surveyed by telephone before and after the TN intervention to assess home nutrition practices, parental attitudes, knowledge of Team Nutrition, perceptions of children's eating behavior, parents' awareness of and involvement in TN activities, and reactions to Team Nutrition. Their involvement in TN activities is profiled as part of this case study report.
- In both phases, teachers of fourth-grade students completed surveys before and after the intervention. The teachers were administered the surveys as a group. The survey primarily addressed skill-directed nutrition knowledge, motivation to teach nutrition, and behaviors related to choosing and eating foods.
- Fourth-grade students completed surveys before and after the implementation. The surveys assessed their knowledge and attitudes about nutrition, as well as collecting information about their participation in TN.

Because Phase I of the pilot project was designed to be evaluated during the Spring 1996 semester, the pilot communities faced several additional constraints:

- Teachers and other key staff had very little opportunity for advance planning because the Scholastic classroom curricula were not complete until implementation was scheduled to begin.
- Teachers had to deliver nutrition education within a relatively brief 8- to 10-week period instead of using the entire school year. As a result, most of the teachers started implementing all of the activities as requested rather than using their discretion to select which activities within the lessons they would conduct.
- Districts had to conduct evaluation activities in addition to educational activities. The former created additional burdens for teachers, staff, and administrators. While USDA provided financial support for district evaluation efforts and information on the purpose and requirements of the evaluation, there were still concerns about the evaluation requirements and some confusion about the distinction between TN research and educational components.

In Phase II, there were also some constraints:

- The beginning of the school year (when Phase II began) is always a difficult time because teachers are trying to get everything going at once. Adding Team Nutrition with the rest of the subjects only made things more complicated.
- As in Phase I, teachers had a short period of time in which to implement Team Nutrition, and it was difficult to meet this schedule.
- Some teachers reported that the students were not as developmentally advanced in the beginning of the year as they would be in the second part of the year. This meant, for example, that first-grade students' reading skills were inadequate to complete some activities.
- Since some school and district-wide activities were delayed, they were not completed until the Spring of 1997.

Copies of evaluation instruments are available in Appendix B.

1.5 STRUCTURE OF THE CASE STUDY REPORT

This case study report is designed to provide answers to the research questions outlined in section 1.4.2. It describes how each district participating in the pilot project attempted to influence students' nutrition behavior through the variety of channels depicted in Figure 1-1 (Section 1.2). Because they were the subject of broader scrutiny, each of the four intensive process evaluation districts is profiled in a separate chapter (Chapters 2-5). The activities in the three basic process districts are described in Chapter 6. Each of these five chapters is organized around the following topics:

- Background information on the school district as a whole.
- Planning for the TN implementation.
- Information on the participating implementation schools.
- Receipt of and reactions to the teacher training.
- Implementation of the classroom-based activities.
- School-wide activities.
- Food service changes and staff training.
- Community-wide activities.
- Community partner involvement.

- Media efforts.
- Parent involvement and reactions.
- Lessons learned from the implementation.
- Next Steps.

In Chapter 7, a synthesis of the findings from the seven districts is presented, including an integrated summary of the lessons learned.

The analyses in the remaining chapters of this report draw on all of the data sources mentioned above to tell the story of Team Nutrition as it was implemented in the pilot communities. A large portion of the information comes from the one-on-one interviews conducted during site visits and over the telephone with TNCs, teachers, and others involved in the TN effort. In addition to this qualitative data, the report draws on more structured data from the activity logs, teacher surveys, and parent surveys to document the level of implementation as well as the relevant opinions and experiences of teachers and parents. Some of the quantitative data presented, especially from the teacher surveys in individual districts, are based on very small numbers of respondents. Therefore, the report is best used to identify general patterns of responses and readers should exercise caution in interpreting specific numbers.

CHAPTER 2: DES MOINES SCHOOL DISTRICT CASE STUDY

2.1 SETTING THE STAGE: DES MOINES AND THE DES MOINES SCHOOL DISTRICT

Located in the heart of Iowa, Des Moines (population 195,000) is the economic, cultural, and political capital of the State. Although the city's economic past was agrarian based, Des Moines now boasts a number of other industries, including biotechnology, telecommunications, financial services, publishing, and one of the world's largest insurance centers.

Table 2a contains information on the demographics and status of nutrition education and food service training in the pilot community prior to the introduction of Team Nutrition (TN).

Information in this table was drawn from an application submitted to the USDA by school districts interested in becoming pilot communities and is useful for understanding the environment into which Team Nutrition was introduced.

The Des Moines school district serves 15,367 students in 44 elementary schools (see Table 2a). Forty-six percent of the elementary school students have received free or reduced-priced school lunches.

Table 2a. Des Moines Public Schools

Elementary School Population	Number of Elementary Schools	Percent of Elementary School Student Population Composed of Minority Students	Percent of Elementary School Students Receiving Free/Reduced Meals	Existing Nutrition Education Curricula in the District	Food Service Staff Trained in Dietary Guidelines
15,367	44	24	46	Yes	Yes

Prior to the introduction of Team Nutrition, Des Moines' district-wide nutrition education curricula consisted of a 3-4 week unit for fourth-graders as part of a Growing Healthy Program and a 4-6 week unit for seventh-graders as part of a Family and Consumer Science class.

District food service administrators received training on implementation of the Dietary Guidelines during the 2 years prior to Team Nutrition. According to the district's original application, less than 50 percent of school food service staff received training on implementation of the Dietary Guidelines during an in-service program.

2.2 PLANNING FOR TEAM NUTRITION

2.2.1 *Applying for the USDA Team Nutrition Pilot Implementation Project*

The superintendent of schools for the Des Moines Independent Community Schools forwarded information on the USDA TN Pilot Project to the Director of the Food and Nutrition Management (FNM) Department. The superintendent suggested that project participation would be beneficial to the school district. Both the superintendent and the FNM Department believed that the project was consistent with other district initiatives, that it would provide an opportunity to improve relations between education and food services, that it was something positive for the children, and that it had potential for being implemented on a long-term basis.

The application briefly addressed the project's proposed structure and established the project's management team—the FNM director, one of the assistant directors of FNM, and the supervisor of family and consumer sciences/health—who would provide overall coordination and community outreach, manage food service and chef activities, and coordinate curriculum components, respectively.

2.2.2 *Planning for Initial Project Implementation*

2.2.2.1 *Selecting and Recruiting the Schools*

The project coordinators reviewed the student population data of every elementary school in the district to identify those that most closely matched the overall school population with respect to racial/ethnic distribution and percentage of children applying for free or reduced-priced school meals. Also, schools were selected to represent different geographic areas within the district.

With the approval of the elementary school director, the TN project was presented to principals during a meeting in the Fall of 1995. The criteria for selecting study schools were discussed, and the principals were asked to volunteer. Many of the principals in attendance returned to their schools to discuss the project with their staff and obtain their approval before volunteering.

Some of the schools initially nominated by the district had to be replaced to create school pairs that matched more closely on certain demographic characteristics. This time-consuming effort delayed school selection until December, as well as development of the project's final implementation plan.

2.2.2.2 Selecting Activities and Building Collaborative Relationships

Once the schools were selected, the coordinators created an organizational structure for the project and they began developing the implementation plan. Subcommittees and a planning committee were established. Planning was completed at subcommittee meetings in January 1996.

During the planning process, potential community partners were contacted. These included the president of the local chapter of the American Culinary Federation (ACF) and several local organizations and businesses. Among them was a representative from the USDA extension service and a representative from a wholesale food vendor. The chefs were asked to participate in several school activities, and the businesses and other organizations were asked to support a district-wide event. The plan included the following activities:

- Displays at Capitol Square—A district-wide activity and media event to be held at Capitol Square in downtown Des Moines involving displays supporting the TN project, including some developed by project partners and students.
- Chef breakfasts—A school-based cafeteria and parent involvement activity.
- Chef snacks—A school-based chef activity.
- Fruits and Vegetables weeks—A school-based cafeteria and parent involvement activity.

2.2.2.3 Developing Relationships with the Schools

After the schools were selected, a meeting was held with the principals of the TN implementation schools to discuss project details. Also, a school contact person was identified to be responsible for working with the project's management team in coordinating each school's activities. One principal decided to serve as the school contact person and believed that her job was to disseminate information in a timely fashion and participate in the school-based core activities. The other principals assigned a teacher as the contact person. In these schools, principals perceived their role primarily as one of "cheerleader," although they did feel it was their responsibility to ensure that calendar conflicts did not impede implementation.

2.2.2.4 Organizational Approach

As mentioned earlier, responsibilities for coordinating Team Nutrition in Des Moines were divided between three people, all of whom will be referred to as Team Nutrition Coordinators (TNCs) throughout this report. The Director of FNM was primarily responsible for coordination of paper work and special requests from USDA and Prospect Associates related to project development, implementation, and evaluation. The Supervisor of Family and Consumer Sciences/Health was responsible for: coordination of classroom education; curriculum implementation; liaison with teachers and principals for the project; facilitating parent contacts and teacher training; and assisting with coordination of classroom-lunchroom linkages. The Assistant Director of FNM was responsible for: menu modifications; purchasing modifications; menu implementation; liaison with food service staff for the project; facilitating chef activities; food service staff training; and assisting with coordination of classroom-lunchroom linkages.

All of the planning was done in conjunction with the school coordinators. The coordinators received all correspondence about the project, attended planning meetings, distributed evaluation surveys, channeled requests from teachers for special expenses, and received activity logs. For the two months prior to the start of TN, the coordinators spent about 25 percent of their time on planning and development.

In Phase II, assistance was provided by four students from Iowa State University. During one month they assisted in a variety of ways for one day per week.

2.2.3 Planning for Phase II

In planning for Phase II, the TN and school coordinators identified the areas where they felt adjustments were needed. One of these areas concerned the coordination between food service staff, school coordinators, and teachers. TN coordinators held a meeting with school principals and school coordinators to solicit ideas for making the TN implementation process more "user friendly." One change involved obtaining classroom supplies at the start of Phase II to avoid last minute requests. Another improvement focused on ensuring that memoranda sent to school coordinators were very clear about their responsibilities for passing information on to principals and teachers. A key planning goal was to keep the number of meetings to a minimum because, as one of the TN coordinators noted, "extra meetings for teachers become volunteer time."

Phase II planning meetings included discussions about the school and community activities to be implemented in this phase. The TNCs elected to conduct some of the same activities as were conducted in Phase I. They selected those types of activities that had elicited positive feedback from teachers, food service staff, or students. This resulted in the following activities: Chef Breakfast; Grain Tasting Week; Fruit Tasting Week; Chef Snacks; and parent newsletters.

In addition to the school-based events, Team Nutrition held a community event in Phase II involving staffed displays at four grocery stores in the community, with each grocery store selected by one of the four implementation schools.

2.3 THE TEAM NUTRITION IMPLEMENTATION SCHOOLS

2.3.1 Key School Features

The four implementation schools are Howe, Mitchell, Willard, and Woodlawn. The grades selected to use the Scholastic materials were kindergarten (Module 1); first-grade (Module 2); and fourth-grade (Module 3). Demographic and food service information for each school are provided in Table 2b. As shown, there was some variability among the schools with respect to the percentage of students representing minority populations and receiving free or reduced-priced meals. One of the schools, Woodlawn Elementary, had a notably higher minority population and another school, Willard Elementary, had a higher proportion of students receiving free or reduced-priced meals than the other implementation schools.

Table 2b. Team Nutrition Implementation Schools

School	School Population	Percent of Student Population Minority	Percent Receiving Free/Reduced Meals	Type of Kitchen
Howe	317	9.8	38.5	Satellite
Mitchell	312	12.5	42.9	Satellite
Willard	424	12.3	59.0	Combination
Woodlawn	469	30.1	27.9	Combination

Two of the elementary schools had all of their lunches prepared at an off-site or production kitchen (located in either a middle or high school) and delivered. The other elementary schools prepared a portion of their meals on site, typically dishes requiring modest preparation, with the remainder of the meal prepared at a production kitchen. Consequently, the food service coordinators at these schools had little direct involvement in food preparation or training in food preparation.

2.3.2 *Initial Response from Principals*

In interviews conducted prior to project implementation in Phase I, all of the principals indicated that their participation in the project was voluntary, that it was important for schools to provide nutrition education, and that the current level of nutrition education in their schools was not satisfactory. In general, nutrition education was covered as part of the health curricula and left to the discretion of the teachers to implement.

2.3.3 *Phase II Feedback from Principals*

Again at the start of Phase II, the four implementation school principals were interviewed to assess their views of Team Nutrition. The principals at the schools expressed a high level of satisfaction with the project and reported that the students "have learned a lot about nutrition through the program." One principal indicated that the parents and the students talk about nutrition "a lot" and another noted that she is "seeing students eating things that they weren't eating before."

Despite their satisfaction with the TN project, three of the principals were somewhat negative about the quality of the food that was served at the school breakfasts and lunches, and about the limited number of choices for the students. For example, one principal noted that when fruits or vegetables are served, they were canned rather than fresh, and three principals indicated that there was not enough variety. Another principal thought that food service should be more responsive to student and parent preferences. However, as one of the TNCs pointed out, the lunch program operates under conditions that sometimes constrain the available options.

All principals indicated that they have been, and will continue to be, very involved in the TN project. One principal served as the school coordinator for the project, while the others participated in the school-based activities, particularly the chef breakfast. In addition, one of the principals accompanied the students to the community event at the grocery store. Principals

indicated that their main task in Team Nutrition was to support teachers and be a liaison with the food service staff. Principals ensured that the channels of communication were open among teachers, the school project coordinator, and food service staff so that everyone had the necessary information and supplies.

One principal, who was new during Phase II, indicated that he eliminated the sack lunch option at his school because he thought it was not sufficiently nutritious. Instead, he opted for an alternative lunch so that children have two choices. According to the TNCs, this is an option that is generally available but is decided at the individual school level -- that is, the principal or school-based council has to request it. However, this principal did note that some parents said that they "would like the sack lunch back, since their children seemed to like that best."

None of the principals felt that there would be any major problems implementing Team Nutrition in Phase II because the teachers and the school had experience from Phase I. They all expressed the opinion that limiting the implementation time-frame to a semester makes it difficult for teachers to fully integrate the curriculum with other subjects.

The general perception of principals at that time was noted in one interview, "We feel real fortunate that we were selected for Team Nutrition." However, two of the principals also noted that they did not feel they would be able to continue the project at its same level without continued Federal financial support for the educational materials needed. Pilot schools received copies of the Scholastic classroom materials, and teachers were trained prior to and during implementation. Pilot communities also received a stipend to support their involvement in the evaluation of the program. Although none of this money was to be spent on program implementation, it was a useful resource for the districts, provided motivation for participation, and compensated the school districts for the time they devoted to participating in the rigorous evaluation protocol.

2.4 TEACHER TRAINING FOR IMPLEMENTING THE SCHOLASTIC MODULES

2.4.1 *Description of the Des Moines Training*

Prior to the start of Phase I, teacher training was conducted. It involved two sessions lasting 4 hours and 3 hours, respectively. The sessions were split because there were not enough substitute teachers to cover for all TN teachers at one time. The TNCs coordinated the training schedule with principals of the implementation schools, but there was no teacher input.

All of the teachers with TN implementation responsibilities received training. A total of 36 teachers were trained: nine kindergarten teachers, 11 first-grade teachers, 11 fourth-grade teachers, and five special resource teachers who covered all of the grades. Two of the TNCs conducted a training for a new teacher in Phase II.

After the pilot study, the TNC team provided an all-day training session for comparison school staff using the USDA materials. This training included food service staff from the comparison schools as well. The TNCs indicated that they felt implementation would be smoother if food service staff understood the Scholastic classroom curriculum and the project from the beginning.

2.4.2 Teacher Evaluations and Perceptions of the Initial Training

As shown in Table 2c, the teachers' opinions of the training provided during Phase I were generally positive. All of the teachers felt that the training was relevant to teaching the lessons, and many (79%) thought it improved their ability to teach nutrition. However, only 60 percent felt that the training was necessary to teach the lessons. Most of the teachers felt that the second session was more useful than the first because they had already conducted several lessons and, therefore, had the opportunity to share information with teachers from the other schools about implementing the Scholastic lessons. They also pointed out that not having the complete set of modules available at the first training was a disadvantage.

Table 2c. Teacher Opinions of Training for Implementing the Scholastic Modules

Percent of Teachers Agreeing That:	
The training was relevant to teaching the lessons.	100
The training was necessary to teach the lessons.	60
The training improved your ability to teach the lessons.	79
N (number of teachers completing questionnaires)	(30)

Several teachers indicated that trainers with more classroom experience and a greater understanding of the demands on teachers in the classrooms would improve the training. One of the coordinators suggested that this issue might be resolved if someone from the district

could be involved in providing trainers with more sensitivity to the district and to the teachers' workloads.

2.4.3 Teacher Baseline Knowledge

Teacher knowledge of the Food Guide Pyramid, low-fat food choices, and food label information was assessed as part of the teacher survey at the start of Phase I. The teachers completed the survey prior to being trained to use the Scholastic Modules. There were 20 items that assessed nutrition knowledge. These items can be found in Appendix C.

The average number of items correct was 13.7, with a range of scores from 11 to 18 correct. The mean scores for teachers in Des Moines are just slightly higher than the mean correct for teachers in all pilot schools (13.3).

2.5 CLASSROOM IMPLEMENTATION OF THE SCHOLASTIC MODULES

Descriptions of the modules and their components can be found in Appendix A.

2.5.1 Teacher Opinions of Nutrition Education

The teachers in Des Moines were highly motivated to teach nutrition in their classrooms prior to the implementation of the classroom curriculum. As shown in Table 2d, teachers were almost

Table 2d. Teacher Motivation Prior to Phase I Implementation (Pretest Percentages)

Motivational Items	
*Percent indicating interest in teaching nutrition	93
Percent indicating interest in incorporating nutrition activities into their classrooms	100
Percent indicating that students like nutrition subjects as well as other subjects	96
Percent indicating that they try to influence the food choices their students make outside school	59
Percent indicating that they plan to incorporate nutrition more often into their classroom activities	89
Percent indicating that the classroom is an appropriate place to teach students about nutrition	100
N (number of teachers completing questionnaires)	(28)

*Percentages based on number of teachers answering each question.

unanimous in their interest in teaching nutrition (93%), their desire to incorporate nutrition activities into the classroom (100%), and their plans for actually doing so (89%). All believed that teaching nutrition in the classroom is appropriate, and nearly all (96%) said their students like nutrition as well as other subjects. Fewer, but still a majority (59%), of Des Moines teachers stated that they tried to influence the food choices of their students outside the classroom.

The Des Moines teachers also recognized the benefits of nutrition education. As shown in Table 2e, nearly all (96%) agreed that it helps children choose healthier foods, that it complements other subjects they teach, and that good nutrition can affect class performance.

Table 2e. Percent of Teachers Agreeing With Statements Regarding the Benefits of Nutrition Education (Phase I Pretest Percentages)

Percent Agreeing With Potential Benefits of Nutrition Education	
Nutrition education in the classroom will help children choose healthier foods to eat.	96
Teaching nutrition will help reinforce other subjects that they teach.	96
Good nutrition can positively affect students' class performances.	96
N (number of teachers completing questionnaires)	(28)

2.5.2 Adherence to Curriculum

2.5.2.1 Time Spent by Teachers

Teachers in Des Moines reported teaching almost all of the Scholastic lessons in both implementation phases (see Table 2f). From Phase I to Phase II, there was a slight increase in the average number of lessons taught to grades 1 and 4, and a greater increase in kindergarten.

Across all modules, the average duration per lesson increased from Phase I to Phase II. For Modules 1 and 3, the average duration per lesson increased by approximately 27 minutes. The cumulative duration per class increase for these two modules was between four and six hours.

As expected, the average planning time per lesson generally decreased, but not substantially, and in the fourth-grade it actually went up a bit.

Table 2f. Classroom Implementation of Scholastic Module

	Module 1 (Kindergarten)		Module 2 (Grade 1)		Module 3 (Grade 4)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (per module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	7.7	8.8	7.6	8.0	7.4	7.5	7.6	8.1
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	1.8	1.3	1.6	1.3	1.2	1.3	1.5	1.3
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.7	2.1	1.8	1.9	1.7	2.2	1.7	2.0
Cumulative Duration Per Class (Hrs)²	13.1	18.8	13.5	14.8	12.2	16.2	12.9	16.6

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

2.5.2.2 Number of Activities and Materials Used

Table 2g provides information on the number of times activities were conducted per class for Modules 2 (Grade 1) and 3 (Grade 4). In Module 2 there was a slight decrease, while in Module 3 there was a slight increase in the total number of activities conducted. Teachers shifted their selection of activities somewhat over time. In Phase II, for example, the average number of Getting Started activities increased from Phase I to Phase II. Conduct of Activities 1, 2, and 3 decreased in both modules from Phase I to Phase II; however, teachers conducted more Lunchroom Link and Home Connection activities in Phase II.

Most of the teachers who were interviewed indicated that they used their own discretion in deciding which activities to teach. In Phase I, some of the fourth-grade teachers taught the activities as prescribed by USDA for the pilot and described in the lesson plans; others went beyond the activities for some of the lessons in which the students were most interested. In both phases, a few teachers adapted the activities to make them more appropriate to the maturity and educational levels of the students. One teacher added information on nutrients,

including vitamins, minerals, and carbohydrates to round out the "Food Works" lesson. She said that students wanted to know why they needed the nutrients and what nutrients do for their bodies.

Teachers indicated that they did most of the activities in Phase II, although three of the fourth-grade teachers said that they did not do the Food Fair in Lesson 8. They indicated that this lesson was too time consuming and required them to rely on parents to supply food for the Fair. One teacher noted that she found it difficult to get parents to respond to requests for contributions.

Table 2g. Average Number of Times Activities Were Conducted Per Class¹

Lesson Activity	Module 2 (Grade 1)			Module 3 (Grade 4)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	6.7	7.6	8	5.2	6.9
Activity 1	8	7.0	6.9	8	7.4	7.3
Activity 2	8	7.2	6.1	8	7.0	6.8
Activity 3	2	1.6	1.3	2	1.4	0.9
Lunchroom Link	4	2.5	3.2	4	2.4	2.5
Home Connection	7	3.5	3.6	6	2.0	2.3
Exercise Connection	0	1.2	1.1	1	0.6	0.7
Wrap It Up	8	4.3	3.4	8	2.1	2.6
Taking It Further	8	1.9	2.3	8	2.8	1.5
Total Activities	53	35.9	35.5	53	30.8	31.5

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

Table 2h indicates that Module 2 teachers used slightly more of the Scholastic materials in Phase II while Module 3 teachers used slightly fewer materials in Phase II. The student and parent reproducibles were used about two-thirds of the number of times recommended, while the student magazine and video were used less frequently.

Table 2h. Average Number of Times Materials Were Used Per Class

	Module 2 (Grade 1)			Module 3 (Grade 4)		
	Recommended/ Available	Used		Recommended/ Available	Used	
		Phase			Phase	
Material		I	II		I	II
Parent Information Sheets (reproducibles)	7	5.8	6.5	7	4.5	4.8
Student Information Sheets (reproducibles)	8	5.0	5.4	7	5.9	5.6
Student Magazine	2	1.3	1.2	6	3.4	3.8
Video	4	1.7	2.0	5	2.5	1.8
Total Materials	21	13.8	15.0	25	16.3	16.0

2.5.2.3 Implementation Methods

The interviews with teachers revealed that in both phases they felt pressured and frustrated by the short timeframe available to implement the Scholastic curriculum. The general view was that it would have been easier to integrate with other subjects if it had been spread out over the school year.

In Phase I, each of the 11 fourth-grade teachers taught the entire Scholastic curriculum in his or her self-contained classroom. Most of the teachers presented the curriculum as a separate unit on nutrition because they felt the schedule did not allow for integration. However, the teachers indicated that whenever it was appropriate, they integrated the Scholastic activities into other subjects. Three of the teachers integrated some of the activities with language arts, particularly the daily digest activity. One teacher used part of the sensational foods lesson as a language arts lesson on adjectives. Two teachers integrated some of the activities with science (food chain) and math (graphing). Most of the teachers felt that the curriculum was most appropriate as part of a health curriculum and planned to teach it as part of the health unit in the Fall.

During Phase II, interviews were conducted with one kindergarten teacher, one first-grade teacher, and one fourth-grade teacher in each of the four implementation schools (four teachers at each grade level). Again, each of the teachers taught the entire curricula in her self-contained classroom.

In the four kindergarten classes, two teachers taught the lessons both as separate nutrition lessons and as lessons integrated into other subjects. The other two kindergarten teachers taught the lessons as a separate unit on nutrition.

Similarly, the four first-grade teachers who were interviewed reported that they used the lessons primarily as a separate unit on nutrition, although three of the teachers noted that they did some integration when they felt it was appropriate. Integration at the first-grade level occurred most frequently with math and language arts.

All four fourth-grade teachers indicated that they integrated the Scholastic lessons into other subjects to some extent, although they found that they had to teach some of the lessons as separate nutrition units "because they did not fit in with anything that we were doing in other subjects." Again, when integration did occur, it was mostly with math and language arts. One teacher indicated that she only had her full class during language arts because some children were "pulled out of class" for extra reading lessons. As a result, she was unable to integrate it with other subjects.

2.5.2.4 Teacher Fidelity to Classroom Lessons

Fourth-grade teachers were observed and rated on four dimensions: how well they adhered to the curriculum content of the lesson; whether they conducted the activities as described in the lesson plan; whether they used the audiovisuals as described in the lesson plan; and whether they used the teaching materials in accordance with the lesson plan. A majority (64-91%) of the teachers were judged to adhere to the lesson plan "a great deal," the highest rating on a three-point scale. Adherence was highest for the use of audiovisual resources and teaching materials.

2.5.3 Teacher Attitudes Toward Scholastic Materials

Table 2i presents the attitudes of teachers in all three grade levels toward the Scholastic modules in Phases I and II. In both phases, about 90 percent of teachers in this district indicated satisfaction with the Scholastic materials overall. Teachers also rated different dimensions of the materials, for example appropriateness for students, and usefulness and appropriateness of activities. Many teachers felt that the Scholastic materials were appropriate for the developmental and educational levels of the students, although there was a small decline from Phase I to Phase II. In fact, the general pattern shown in the table is one of a

small decline in satisfaction from Phase I to Phase II. One reason for this decline might be that some teachers indicated that the lessons were too advanced for their students at the beginning of the school year. The one exception to this pattern was improvement in teachers' opinion over time that the classroom activities met their nutrition-related teaching needs.

Table 2i. Teacher Attitudes Toward Scholastic Materials

	Phase	
	I	II
Percent of Teachers Who Reported That They Were Satisfied With Scholastic Materials	86	79
Percent of Teachers Who Agree or Strongly Agree That:		
The Scholastic materials were appropriate for the developmental level of the students in my class.	86	79
The Scholastic materials were appropriate for the educational levels of the students in my class.	86	79
The Scholastic materials were culturally appropriate for the students in my class.	97	96
The activities suggested in the Scholastic materials were appropriate for my classroom.	83	71
The content of the Scholastic materials did provide sufficient background for my nutrition-related teaching needs.	86	71
The classroom activities met my nutrition-related teaching needs.	93	75
Having the Scholastic materials makes it easy to teach about nutrition.	93	85
I will teach more about good nutrition in the future if I can use the Scholastic materials again.	86	82
The Scholastic materials are better than other nutrition teaching materials I have used.	76	65
N (number of teachers completing questionnaires)	(29)	(28)

One of the TNCs mentioned that most teachers felt comfortable with the Scholastic materials, but had some questions about which foods fit into each pyramid category. The teachers would have liked a better understanding of why certain foods go into specific groups. For example, they wondered why doughnuts and cookies are in the grain group, but sour cream is not in the milk group.

In Phase II, there was a slight increase in the percent of teachers who felt that the preparation time for the Scholastic lessons was reasonable (see Table 2i1). There was also a somewhat larger increase between Phase I and II in the percentage of teachers who felt that the teaching time was reasonable. This is interesting because teachers actually spent more time teaching in Phase II.

Table 2i1. Teachers Attitudes Toward Time to Teach Scholastic Modules

Percent of Teachers Who Agree or Strongly Agree That:	Phase	
	I	II
The time required to prepare to teach the Scholastic lessons was reasonable.	52	56
The time required to teach the Scholastic lessons was reasonable.	55	64

Interviews with individual teachers indicated that both preparation and implementation were easier in Phase II because of their experiences in Phase I. However, most teachers, regardless of grade level, reported that the curriculum would be easier to integrate with other subjects if it was spread out over the course of the school year.

Kindergarten teachers were either very satisfied or highly satisfied with the TN Scholastic materials. One kindergarten teacher indicated that the lessons and materials "fit in perfectly with my curriculum and I did not have to add anything to it." Kindergarten teachers reported that the materials supported the themes of lessons and that the lessons were grade-appropriate and engaged the children's interest.

Despite their generally positive attitudes, all kindergarten teachers acknowledged that they did not think they could do the entire curriculum without the additional funds and resources available to them during the pilot implementation. For one teacher, even that money was not sufficient to complete some of the activities recommended by Scholastic. For example, she reported that she "reached her limit in funds even before we got to the picnic." Teachers were allotted approximately \$1.00 per child in additional funds, and this teacher said that the picnic "cost \$29.00 in itself." All kindergarten teachers said that they would use the curriculum again, but would eliminate the more expensive activities.

First-grade teachers were more varied than kindergarten teachers in their reactions to the Scholastic curriculum. One teacher was highly satisfied with the curriculum and felt it engaged the students' interest and was age and grade-appropriate. However, two first-grade teachers indicated a lower level of satisfaction. Their main criticism was that the materials were too difficult for the first-grade students. One of these teachers noted that the curriculum was easier to implement in first-grade in the Spring because the children were better readers at that time. However, in Phase II which was implemented in the Fall, the students were not yet good readers and many of the materials and activities were beyond their capabilities. One first-grade teacher was somewhat satisfied with the curriculum, but noted that she had to "change it a lot to make it more appropriate for my class."

All first-grade teachers indicated that the activities engaged the interest of the students, particularly Buddy's Restaurant, which seemed to be everyone's favorite. Two teachers expressed the opinion that there were too many reproducibles and that many of them were not necessary. In addition, some of the work sheets had "too many words on the page," and focused on too many concepts at one time. Two teachers at this grade level made similar comments about the parent information sheets, which they felt were "too wordy."

The four first-grade teachers indicated that they will probably use the curriculum in the future, although one noted that she would not do so unless the school district directs her to as part of the health curriculum. Teachers noted that they would not use the entire curriculum, but would pick and choose those lessons and activities that they thought were most effective. One teacher expressed the opinion that a curriculum she had used before -- a 4-H curriculum -- was better than the Scholastic curriculum because it was "more age-appropriate and had more hands-on activities for the students."

At the fourth-grade level, teachers reported that they were either highly satisfied or somewhat satisfied with the Scholastic curriculum. Preparation and implementation time did not seem to be problematic for these teachers, although they generally felt that the lessons were lengthy. One teacher said that even though she had taught it last year, she still wanted to do things differently and change some things to make it fit better. She noted that this increased her preparation time, but that this increase was self-imposed and not due to the curriculum.

All fourth-grade teachers reported that the materials, particularly the magazine and the video, supported the themes of lessons. However, two teachers felt that there were too many reproducibles and "many that are not worth the time and cost required to copy them." Teachers

often have a limited budget for making copies. These particular teachers said that they would not use the reproducibles at all if they implement the lessons in the future.

Fourth-grade teachers indicated that they plan to continue using some of the activities and lessons in the future, but they were unlikely to use the entire curriculum as a unit because they did not think they would have the time or the money to do so. They also noted that it would be easier to implement if they could look at the curriculum and figure, "Oh, that fits in with what I plan to do in February or September in language arts or in math, and the lesson could be postponed until then."

Despite the qualified satisfaction with Scholastic materials, teachers at all three grade levels commented on the students' interest in the project and how much they had learned, some of their comments were:

- "Students are really excited about learning this stuff and seem to like talking about it."
- "It's amazing that students now know the nutrition of their lunch. They will tell me, 'I didn't eat such and such because I know it's not good for me.' They're making better choices."
- "The students have really gotten into it. It's made them more aware."
- "(They are) very interested in keeping track of their foods and writing about it."

2.5.4 *Changes in Teacher Nutrition Behaviors*

In Phase I, three of the eight fourth-grade teachers interviewed said that their involvement in the project had changed their own behaviors and the way they used food in the classroom. One teacher indicated that she has become more aware of different foods and will be more likely to give healthier birthday treats in class. One teacher noted that she decided to stop giving Tootsie Pops™ to her students as rewards. Another teacher reported that she provides low-fat snacks and points out differences and alternatives to candy. This teacher said that she has been eating more fruits, vegetables, and grains since her involvement with Team Nutrition.

Of the 12 teachers interviewed in Phase II, five indicated that the project had changed the way they use food as an incentive in the classroom, with some teachers using more nutritious foods and others switching to non-food items. Most of the other teachers indicated that they did not

use food as an incentive, while one teacher noted that she still does give candy, but just not as often.

Seven of the 12 teachers noted that being involved in the project had changed their own behavior regarding nutrition, while the other teachers stated that they were already nutrition conscious. Those who reported a change indicated that the project had made them more aware of what they are eating or serving their families, and that they were more likely to read nutrition labels when food shopping.

2.5.5 *Involvement of Cafeteria Staff*

We interviewed both food service managers and line workers after project implementation in Phase I. Managers and staff were very positive about the project, despite the fact that they reported it greatly increased their workload. A frequently cited example was the additional time required to cut up the fresh fruits and vegetables for the tasting activities.

The involvement of food service staff varied across the schools. At the high end of involvement, the food service manager at one of the schools not only coordinated all of the school-based activities and ensured that supplies were available and the displays set up, but also gave preschool and fourth-grade students a tour of the kitchen at a middle school and let them design their own menu according to the Food Guide Pyramid. She promised to prepare that menu for their school as a special treat.

The food service manager at one school talked to children about fruits and vegetables, visited the kindergarten classes, and participated in the chef breakfast, chef snack activity, and fruits and vegetables week. She took classes on nutrition from the district in the Spring so she could answer children's questions about the food. She indicated that "the students are eating a lot more of the fruits and vegetables in the cafeteria sack lunch and not throwing as much food away."

The food service manager at another school indicated that being more involved in the planning process would have made her feel like more of a participant. Although she was very involved in preparing food and displays for the school-based activities, she did not conduct any tours. The onsite food service coordinator at this school also indicated that she wanted to be more involved in planning classroom activities and knowing what the children were doing in the classroom. She asked one of the teachers if she could copy some of the curriculum materials so she would know what the children were learning. Although she said she was most involved

with the first-grade classes, she also helped prepare the sample foods for the fruits and vegetables week.

The food service coordinators at the other two schools were involved in the school-based activities but not in any classroom-initiated activities. The onsite food service workers at one school said they went into the classroom to bring food but otherwise were not involved. Onsite workers at the other school reported that they gave kitchen tours and discussed the fat content of lunch menus with the children.

In Phase II, most of the food service staff were involved in the TN project through the training they received and through preparation and serving of foods for the school-based activities. At three schools the food service staff conducted cafeteria tours and a food service manager at one school went to the classrooms and talked to the students about the cafeteria services.

At one school, the food service manager from the middle school (which provides the food for the school) came to the fourth-grade classes and talked to them about the cafeteria and kitchen and helped them plan a menu, which was served as a special TN lunch one day. The fourth-grade teachers at this school indicated that the children really liked this activity, which also had been done in Phase I.

In general, food service staff felt that things went much smoother during Phase II than in Phase I. This was primarily because they understood the program better and they realized the benefits to the students.

All food service staff interviewed in Phase II were very satisfied with the project, although they still felt it required a lot of extra work for them. Three of the seven food service staff interviewed stated that the extra work was worth it because of the benefits for the students. One cafeteria worker said that she hears students talking about nutrition in the school lunch line.

2.6 IMPLEMENTATION OF SCHOOL-BASED CORE ACTIVITIES

Phase I

Figure 2a displays a timeline for the school and community-wide activities. All four schools in this district conducted the following school-based activities:

- Chef's Breakfast.
- Chef's Snack.

- Fruit Tasting Week.
- Vegetable Tasting Week.
- Interactive Nutrition Display at Parent Workshop
- Newsletter.

Overall, the teachers and food service staff were very positive about these events and believed that they successfully conveyed their nutrition messages and engaged the students' interest. The food service staff indicated that the activities involved a great deal of extra work for them, but that it was worth it for the students. The teachers liked the school-based activities because they felt that "everyone was working together at the district and building levels." Most teachers felt that the activities improved the relationship between food service staff and school staff.

2.6.1 Chef Activities

The chef breakfast and chef snack activities were conducted by volunteer chefs from the local ACF interested in the TN project. Their interest was piqued because Team Nutrition complements a similar project the ACF is conducting (described later).

Food service managers helped to plan both chef activities and met with chefs to discuss materials and the agenda. One of the TNCs gave a presentation on Team Nutrition and showed the Great Nutrition Adventure video at an ACF meeting. For the chef breakfast, two chefs came to each school and helped prepare and serve breakfast to the students. Although school lunch is the focus of the majority of school food service programs, many schools provide extensive breakfast programs for their students. Encouraging healthy food activities at breakfast is covered by the mission of Team Nutrition. Breakfast also provides an opportunity to involve working parents who might not be able to participate in the lunch programs.

For the snack activity, chefs visited fourth-grade classrooms and engaged students in discussion about low-fat snacks. The chefs helped prepare a healthy bagel snack served on a mini-Frisbee for all the students. The fourth-graders then helped serve these snacks and deliver the healthy food choice message to other classes in the school. All of the fourth-grade teachers were involved in the chef snack activity and felt that it was a very positive experience for the children. One teacher felt it was important because "at fourth-grade, students begin to make some food choices and have some money to spend on snacks. This helped them think 'before I buy that candy bar, what are my other choices?'" At one school, the teachers noted

that the chef who came to their school was also a teacher, and this really helped in working with the students.

The challenges to implementing these activities included purchasing the food and supplies, communicating with the chefs, and building trust between the chefs and food service staff. As one coordinator noted, it was difficult to ensure that the chefs would meet their commitments during the established timeframes.

The teachers commented that the chef breakfast appeared to have a positive effect on the students who attended. However, one of the coordinators was not sure whether the breakfast activity was successful in conveying any nutrition messages, although the students enjoyed seeing the chefs.

All food service staff were involved in the chef activities and indicated that they were very successful and that the students enjoyed them.

2.6.2 *Fruit Tasting Week*

During the event, students sampled a different fresh fruit in the school cafeteria each day. A display consisting of fruits and educational materials was set up in the cafeteria. TN classrooms also received samples of the day's featured fruit for the students to taste and for teachers to incorporate into their lessons.

The teachers and food service staff reacted positively to this activity. Both noted that the students really liked the fruits, especially the kiwi.

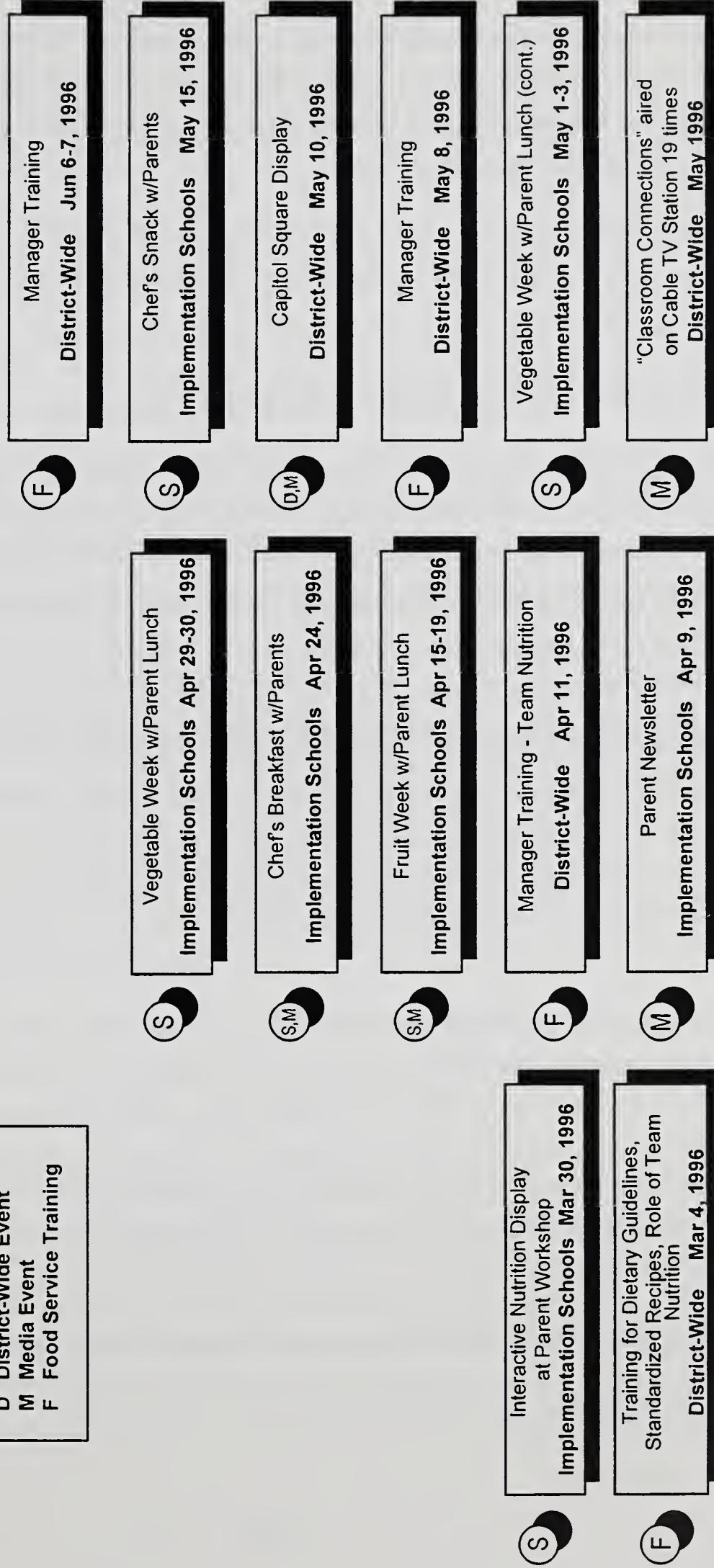
2.6.3 *Vegetable Tasting Week*

The vegetable week was very similar to the fruit tasting week in that the students had the opportunity to sample different fresh vegetables in the cafeteria. Educational materials were also displayed about vegetables in the cafeteria. Samples of vegetables were provided to the TN classrooms for the students to taste as part of an education activity.

Unlike the positive reaction to the fruits, the vegetables received mixed reviews from the students. Some of the teachers thought that serving a dip with the vegetables would have made the experience more positive.

Figure 2a: TN Core Activities Des Moines, Iowa—Phase I

Legend	
S	School Event
D	District-Wide Event
M	Media Event
F	Food Service Training



A produce company helped secure the produce and educational materials for the tasting activities. One project coordinator noted that the fruit and vegetable weeks effectively transmitted the intended messages because they were very focused. She commented, "The message was exactly what was provided."

Parents were sent recipes and were invited to eat lunch at the school during the fruit and vegetable weeks. Not many parents participated, but feedback from those who did was positive.

2.6.4 Interactive Nutrition Display at Parent Workshop

The district used a positive parenting workshop to involve community participants in an interactive TN display. The basic message of the display was the importance of healthy food choices. TN handouts and nutritional snacks were available for the parents to sample. All four implementation schools participated in the event and about 150 adults participated.

2.6.5 Newsletter

TNCs developed and sent a newsletter to parents of the students in the implementation schools describing TN activities.

Phase II

A timeline for school-wide activities in Phase II is provided in Figure 2b. Teachers and food service staff who were interviewed were generally positive about these activities. They felt that the activities were very successful and coordinated very well with the classroom lessons. One fourth-grade teacher noted that it was important to continue those activities because some of the children were exposed to fruits, vegetables, and grains for the very first time. A first-grade teacher indicated that the school-wide activities "helped children try new things that they would not ordinarily try."

All four pilot implementation schools conducted the following school-based activities:

- Chef's Breakfast.
- Chef's Snack.

- Fruit Tasting Week.
- Grain Tasting Week.
- Newsletters.

2.6.6 Chef Activities

The Chef breakfast activity was implemented to coincide with Des Moines' first annual "Take Time Out for Breakfast Day." The Des Moines school district was contacted by the sponsors of the campaign and asked to select one elementary school as a "kick-off" site. The TNCs decided to tie this in with a chef activity at each school. Chefs and food service staff planned the menus and chefs came to the schools and prepared and helped serve the food. They also went out into the cafeteria and talked with parents and students.

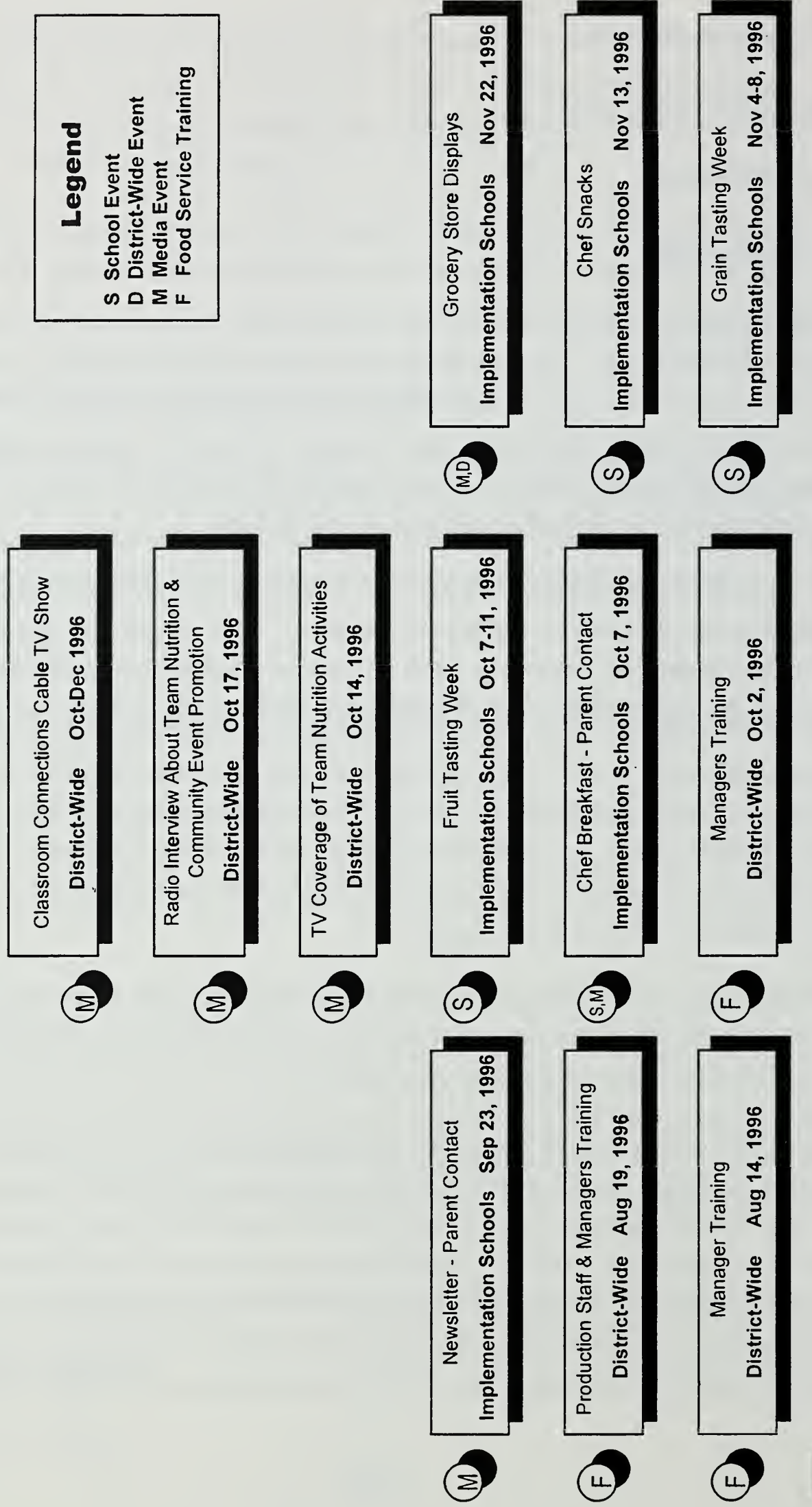
The menu for the chef breakfast was fresh melon, cold cereal, and muffins. Toppings such as grated coconut and granola were available for the melon. Food service staff noted that some of the chefs were creative and carved the melon into various shapes. There was a display in each cafeteria with information about Team Nutrition and posters that the students had made.

Food service staff and the TNCs noted that this event was extremely successful, particularly with respect to parent involvement. At one school, the food service manager noted that normally they serve around 100 students at breakfast, but for the chef breakfast they had about 200 extra students and parents. The fact that this activity drew so many parents was attributed to the breakfast being offered free of charge.

Chefs for this activity and other events were recruited from the local American Culinary Federation. The president of this association has been very involved in the TN project and arranged for two chefs to be assigned to each school.

The chef snacks event was repeated in Phase II because members of the planning committee felt it was very effective. The focus of the event was on encouraging healthy snacking. A chef went to each school to help food service staff prepare a snack that included a low-fat cream cheese and vegetables mix wrapped in a tortilla which was then cut up into bite-size pieces. The chefs visited classrooms, served the snack, and talked about nutrition with the students. They were assisted by fourth-graders who helped disseminate the snacks and talked about how the snacks fit into the Food Guide Pyramid. The teachers and one of the TNCs reported that

Figure 2b: TN Core Activities Des Moines, Iowa—Phase II



August/September

October

November

this event was very successful, although some of the kindergarten and first-grade teachers said that their children did not like the snack.

2.6.7 *Fruit Tasting Week*

For this week, an educational display was set up in the cafeteria, and a different fruit item was offered with lunch each day. Some were offered as part of the daily menu, such as apples and pears, while others were provided as sample products, such as star fruit. Samples of fruits also went to the TN classes for teachers to cut up and serve to the class. This gave the teachers an opportunity to do a lesson every day on a different fruit. While the teachers noted that the children liked this event, many of them said that cutting up and serving the fruit was very time consuming for them. As in Phase I, a newsletter was sent home to parents inviting them to lunch during the week.

2.6.8 *Grain Tasting Week*

This week was similar to Fruit Tasting Week in that a different grain was featured each day of the week for tasting in the cafeteria. Home-size samples of grains in raw and cooked form were given to the TN classes so that students could see and feel the product in both forms. Teachers indicated that the grain tasting was beneficial, but that they were not quite sure what to do with the bags of uncooked rice, spaghetti, and oatmeal that were given to the classrooms.

The grain tasting week was student initiated. The TNCs noted that after Phase I, the students asked them why they did not have a grain week. The grain tasting week was a joint effort between TN Management staff, lunchrooms, and the central warehouse. Food staff delivered five full portions to classrooms and prepared samples for the whole school. A display area was set up in the cafeteria with recipes and a flier was sent home to parents the week before, inviting them to come have lunch at the school. Recipes were included on the back of the flier.

2.6.9 *Newsletters*

The TNCs prepared and sent a newsletter to parents of the students in the implementation schools. The purpose was to inform them about the TN activities and events and to encourage parent involvement. The newsletter was sent home with the students.

2.7 FOOD SERVICE ACTIVITIES AND CHANGES

Descriptions of school lunch services, food service training, and observations of food preparation include both implementation and comparison schools.

2.7.1 *Description of School Lunch Services*

Five of the pilot schools have satellite kitchens. Such kitchens obtain partially or fully prepared meals from central kitchens. The food service workers at satellite kitchens primarily re-heat or refrigerate the foods and then serve the students. The food service staff might be responsible for cutting up fruit or dishing out canned fruit. The other three pilot schools have combination kitchens in which some food is prepared on site and some food is received from a central kitchen.

The TN pilot schools also vary with respect to whether or not students are permitted to decline any food items that count toward meeting the USDA meal requirements. Students at "serve" schools must take every item that is part of the day's meal. At "offer" schools, students may decline up to two meal items, except the entree, depending on the total number offered. There are two schools that offer a choice of two entrees for lunch. On Friday, a few of the schools might offer baked cookies or bags of chips á la carte to the students.

2.7.2 *Plans for Meeting Dietary Guidelines*

In Phase I, TNCs felt their existing menus were close to meeting the revised Dietary Guidelines. They planned to use USDA-approved software to carry out a nutrient analysis of a subset of menus for the next school year. Involvement in TN sped up the time in which they originally planned to conduct the analysis. They found that it was very time consuming to get the product information required for the program.

School cafeteria staff who were interviewed at the Phase I posttest were not aware of any menu changes, but they did note that they were using less butter and salt than before. One cafeteria manager mentioned that they rinsed ground beef; another mentioned that they stopped frying foods and were serving more pasta; and a third noted that they had a recipe for making green beans without salt. No other changes were noted regarding menus or general food preparation.

During Phase II, the district continued their efforts to meet the Dietary Guidelines. Key steps taken to accomplish this included increasing the serving sizes for fruits, vegetables, and grains.

In addition, the district started planning menus using Nutrient Standard Menu Planning (NuMenus).

An effort was made to conduct an analysis of school lunch menus. However, this presented a number of measurement challenges which are addressed in Appendix D.

2.7.3 Food Service Staff Training

In Phase I, approximately 200 food service workers across the district participated in an in-service training that addressed the Dietary Guidelines, standardized recipes, and their role of Team Nutrition. However, during interviews with some food service staff from the implementation schools, only one indicated that she had received any training during the Spring and that it was more of an information session on Team Nutrition than training. Food service managers received approximately 3 hours of additional TN-related training in the spring and early summer of 1996.

In Phase II, a 4-hour food service training was provided to approximately 90 food service staff prior to the opening of school in the Fall. The training focused on the NuMenus approach, particularly the importance of using standardized recipes, following recipe directions exactly, and serving the required portion sizes. The food service staff who were interviewed were positive about the training, although some concern was expressed about the total number of changes and how it was going to affect each of them on site. The TNCs noted that during the training, food service staff were provided with full explanations for why each change was being made and the nutrition requirements that were being met by each change. USDA materials including existing training manuals, nutrition curriculum, activity guides, and slides were used for this training.

Two additional training sessions were reported for food service managers. The manager training used the USDA training manual and included illustrated slides. This training was conducted in both August and October 1996. Seventeen people were involved in these sessions, one of which lasted for 2 hours and the other for 3 hours.

2.7.4 Support to Facilitate Food Service Staff and Teacher Relationships

The TNCs suggested that establishing a clear process for communication links will help to build the food service staff and teacher relationships. Involving food service staff and teachers in initial training activities will also help build this relationship.

2.7.5 Observations of Food Preparation

Observations of meal preparation in implementation and control schools were conducted in both phases. Trained observers watched the preparation of a menu on one of the days prior to TN implementation and again following implementation. Observations took place either in central kitchens (where the food service workers prepared the food and then transferred it to satellite kitchens), or they took place in combination kitchens at the participating schools. During observations in Phase I, staff prepared tacos, mixed vegetables, a vegetable bread, and fresh fruit wedges. In Phase II, preparation of chicken, gravy, mashed potatoes, yeast rolls, and fresh fruit cups were observed.

In Phases I and II, observers noted that food service staff displayed recipes and followed them very closely in almost all of the schools. Occasionally, there was an item that had been prepared many times, and the food preparer relied on memory instead of using the recipe. Kitchen staff were not observed using estimates, with the exception of putting lettuce and cheese into individual servings for tacos in Phase I. In all other instances, the staff used measuring instruments for accuracy. When preparing individual servings, items were weighed, measured with numbered scoops, or counted.

Sometimes, food service staff modified recipes. In Phase I, one school added onions to taco meat, while another school left nuts out of one batch of Harvest muffins. In another, they substituted applesauce for pineapple because they did not have any pineapple to serve. In Phase II, they substituted celery for celery salt in gravy. Observers did not see salt or fat being added to the recipes. At one school, staff indicated that they could add salt or garlic to food after they tasted it, but this was not actually observed. In general, the food service workers were cutting down on the use of salt, and only made substitutions if an ingredient was not available.

The food service staff used low-fat practices when preparing meats. All meats were steamed. Certain foods, such as the taco meat, were drained, rinsed, and re-drained to reduce fat before adding seasoning. Food service workers indicated they were cutting down on fat by steaming or baking foods, with the exception of those schools which still fried French fries.

When produce was served, it looked fresh and colorful. Sometimes melon or other fresh fruit was added to canned fruit. Frozen vegetables were steamed to retain quality and freshness before being sent to the satellite kitchens.

In the schools with full production kitchens, food service managers observed their staff during food preparation. Typically, the managers were available to their staff in a supervisory capacity. At two schools, the coordinator was the primary cook and had another food service worker to help with the food preparation.

Observers at about one-half of the schools said that cafeteria staff discussed taste, quality, or healthfulness of food. The kitchen staff also discussed students' likes and dislikes, and why certain food items appeal to them.

In Phase I, there were not many posters displayed in the cafeteria area; however, there were some in the kitchen and/or serving line. These focused on food preparation, procedures, and safety. The central and combination kitchens in both the kitchen and cafeteria areas displayed more nutrition-related posters in Phase II.

Many of the observers commented on the kitchen staffs' hard work, pride, and dedication to their jobs and responsibilities.

2.8 COMMUNITY ACTIVITIES

The community activity doubled as the project's main media event in Phase I. The project planning committee developed an idea to set up displays by implementation schools, commodity groups, and other community and business partners at Capitol Square in downtown Des Moines. The displays supported the themes of Team Nutrition and stressed the importance of eating a wide variety of foods for health. The materials were displayed during the lunch hours and included a Food Guide Pyramid game developed by the students.

Parents, teachers, administrators, and select students participated in the school exhibits and were contestants in the game competition. Two news broadcasting celebrities participated in the Food Guide Pyramid game with the students during the community event.

One coordinator thought the event was "excellent" but was disappointed that only about 300-400 people visited the displays during the extended noon hour. The coordinator attributed the low turnout to the location.

The TNCs reported that in Phase II the community partners struggled with ideas for a community event that would reach more people. In particular, the partners wanted to reach a different segment of the population in Phase II - those who lived in the neighborhoods around the schools rather than the "downtown population." The group made the decision to have

staffed grocery store displays. A community partner who was interviewed indicated that this was a decision that was made by the partners as a group rather than by the TNCs.

Four grocery stores were selected for the displays, one in each of the implementation school areas. TNCs noted that there was no problem obtaining consent from the grocery stores for the event. In fact, grocery store managers were more than willing to have the displays and were described as very helpful to the group in setting up the displays. Community partners staffed the displays or provided materials to be handed out in special kits that were prepared for each person coming by the display. The kits included USDA recipes, TN bookmarks, information from the American Heart Association (AHA), the local Dairy Council, and other community partners. The children from the implementation schools made the displays which demonstrated what they were learning in Team Nutrition. Each display had a game similar in design to the "Wheel of Fortune" with prizes donated by community partners. The questions for the Wheel of Nutrition game were developed by the fourth-grade students at the implementation schools. A drawing also was held every 30 minutes and winners were given prizes, again donated by community partners. The event took place over a 4-hour period at each grocery store location (including set-up and clean-up time).

Shoppers who stopped at the display were offered whole wheat cookies, fruit samples, and skim chocolate milk. The cookies were made by the school district's food service staff and the fruit and milk were donated by a community partner.

In addition to the community partners, a teacher or principal from each school and three or four students staffed the display. At some schools, only fourth-grade students attended, but other schools sent some first-grade students as well. The students ran the game and answered the shopper's questions. All of the children in the school were given fliers to distribute to parents and neighbors telling them about the event and inviting them to stop by the display.

Two community partners were assigned to each grocery store to help the students. Those who were not available on that day provided materials or donated prizes. The event was held on a Friday from 1:00 to 3:00 pm. The TNCs reported that for the time of day, they felt a lot of people were reached, although the number of people varied across stores. Community partners at two of the stores noted that they saw as many people as they could handle during the 2 hour period. However, at the other two stores community partners reported that they did not see as many people as they expected. The TNCs noted that these stores were not as conveniently located as the others and did not get as many shoppers during that time of day.

2.9 COMMUNITY PARTNERS

As stated in Section 2.2.2.2, community partners were invited during Phase I to participate in a planning group that was convened in early January 1995. Familiarity with potential partners and development of partnerships was facilitated by one of the TNC's involvement with the community partners for Healthy Polk County 2000. Involvement in that group provided the TNCs with a working knowledge of relevant organizations and their representatives.

During an advisory group meeting, Team Nutrition was presented and ideas for community and school-wide events were discussed. The TNCs also went to meetings of local organizations such as the ACF to make presentations on Team Nutrition. This process provided the partners with an opportunity to have an active voice in selecting the activities and deciding on the extent of their participation. The ACF organized teams of two chefs to go to the schools for the breakfast and snack events, and vendors assisted in the development of the fruit and vegetable week events, volunteering time and materials to organize the event.

Interviews conducted with selected community partners, including a chair of the local ACF, two commodity group representatives, and a representative of the USDA Extension office, revealed a high level of enthusiasm for the project and satisfaction with their participation in Team Nutrition.

Their experience was enhanced by the professionalism of the management team. All of the community partners commented that the project was extremely well organized and that they had clearly defined roles and responsibilities. This facilitated their involvement and made the experience more enjoyable.

The TNCs stated that all of the community partners involved in Phase I remained involved in Phase II. Partners were described as active and committed to continuing their partnership. During Phase II, the project added the grocery stores as partners and the TNCs indicated that they hope to continue working with them in the future.

The President of the ACF continued his involvement by lining up a sufficient number of chefs so that two chefs could be assigned to each of the implementation schools. In addition, Iowa State University provided four students to assist the TNCs in various aspects of the project. One duty of these students was to maintain contact with the school coordinators to make sure they were getting the materials and information they needed.

Partners such as Midland Dairy, Anderson-Erickson Dairy, AHA, Loffredo Produce, the local Farm Bureau, Iowa Beef Council, the local Dairy Council, and brokerage firms, planned and helped out in the Phase II community event. The TNCs noted that the project had 20 partners involved in one way or another in the grocery store displays, either by staffing the displays or providing materials or prizes.

One community partner who helped at the display reported that it went very well and contact was made with over 100 people during the 2 hour timeframe. The challenge for the project was holding it at a time that accommodated students and teachers during the school day, and guaranteed a sufficient number of shoppers in the store. A community partner noted that the TNCs provided great leadership and were very organized.

2.10 MEDIA EVENTS AND MEDIA COVERAGE

In Phase I, there was newspaper and radio coverage of the community event, television coverage of the fruit tasting activities at one school, and of the chef's breakfast at another. Team Nutrition also was discussed in a PTA newsletter, a Department of Education newsletter to school employees, and periodic commodity newsletters that are distributed to people who work in the food service industry.

The TNCs discussed nutrition education and Team Nutrition when they appeared on "Classroom Connections," a cable TV show.

The USDA-disseminated Disney PSAs used the characters from "The Lion King" to talk about good nutrition. When surveyed in the classroom, two-thirds of the Des Moines fourth-graders recalled seeing the Disney characters Pumba and Timon talk about good nutrition on television (40% recalled seeing it many times and 26% at least once).

Phase II had no major media event, but there was media coverage of several school activities. One of the implementation schools was identified as the "kick-off" school for the "Take Time Out to Eat Breakfast" campaign. A local network affiliate television station came to the school for the Chef Breakfast event and interviewed the chef and some of the students and parents. Also, there was an article in the Des Moines Register about the Chef Breakfast.

At another school, a TV station conducted live interviews with the students during lunch time about what they were learning about nutrition. This media coverage was initiated by a community partner on the advisory panel who was a public relations expert for Anderson-

Erickson Dairy. This partner also made contact with a radio station to have a few students and their teacher give a live interview on the TN program.

In addition, the Cable TV show "Classroom Connections" was also conducted in Phase II.

2.11 PARENT INVOLVEMENT

2.11.1 Parent Awareness of Team Nutrition

As shown in Table 2j, parent awareness of Team Nutrition was higher in Phase II than in Phase I, except for hearing of Team Nutrition on the radio. In Phase II, 50 percent of the fourth-grade parents interviewed reported hearing about Team Nutrition through some media, compared to 40 percent in Phase I. There were also considerable increases over time in the percentage of parents reporting that they were aware of a community event, were aware of a TN school-wide event, and participated in a TN activity.

Table 2j. Parent Awareness of Team Nutrition

Percent of Fourth-grade Parents Reporting They:	Phase	
	I	II
Heard of Team Nutrition through any media (Net)	40	50
Heard of Team Nutrition on the television	29	38
Heard of Team Nutrition on the radio	13	9
Heard of Team Nutrition in the newspaper	23	38
Heard of any TN event (Net)	90	93
Were aware of a TN community event	37	51
Were aware of a TN classroom event	98	95
Were aware of a TN school-wide event (outside of classroom)	56	79
Participated in a TN activity	19	31
N (number of parents completing questionnaires)	(181)	(157)

Teachers and project coordinators indicated that parents were most interested in the Chef's breakfast, the Chef's snack, and the Supermarket Sleuth reproducibles which included ideas for

detective work to make the next supermarket trip more fun. In the future, the TNCs will try to increase parent participation by having the students write invitations to their parents for events such as the Chef demonstrations.

2.11.2 Nutrition Education Activities in the Home

Table 2k shows the increases from Phase I to Phase II in the percentage of parents reporting that they conducted some kind of nutrition activity in their homes. The increase occurred across the board with a larger percentage of parents in Phase II reporting involvement in family projects, nutrition homework, and in using nutrition-related family reading materials.

Table 2k. Percent of Fourth-grade Parents Reporting Participation in Nutrition Activities in the Home

Percent Reporting Participation in Home Activities	Phase	
	I	II
Conducted any home activities	73	81
Family nutrition projects	42	49
Other nutrition homework	40	50
Family reading materials	40	50
Other activities	20	24
N (number of parents completing questionnaires)	(181)	(157)

Information sheets (reproducibles) were sent to families of all students participating in Team Nutrition. These information sheets included activities for parents to work on with their children. They focused on different aspects of nutrition and were related to what the children were learning in school. Some examples of these information sheets are "Gardening Together," "Understanding the New Nutrition Facts Label," and "Building Healthy Meals and Snacks." In Phase I, 119 parents reported using the information sheets, while 108 parents reported doing so in Phase II (see Table 2l).

Table 2l also provides information relevant to parent use of take-home TN materials in each phase. At least 90 percent of parents in both phases reported that the information sheets (reproducibles) were fun and interesting to their children. Somewhat fewer parents indicated that they liked all or most of the parent information sheets, and that percent declined over time.

Table 2l. Parent Reaction to Take Home Team Nutrition Materials (Reproducibles)

Percent of Parents Agreeing or Agreeing Strongly That:	Phase	
	I	II
Parent information sheets were interesting to child.	85	92
There was enough time to complete parent information sheet activities.	64	69
The parent information sheets were important to the child.	98	83
The child had fun doing parent information sheets.	90	92
Parent was able to understand information sheets.	98	99
Sheets gave parent other ideas to practice good nutrition.	85	87
Percent of parents who liked all or most of the parent information sheets.	85	74
N (number of parents completing questionnaires and using parent information sheets).	(119)	(108)

The biggest challenge, however, was finding enough time to complete the activities suggested; only 64 percent and 69 percent of parents in Phases I and II, respectively, felt there was sufficient time.

In addition to receiving reproducibles, parents also reported receiving the TN newsletter "Take Out" and the children's magazine "Foodworks." As shown in Table 2m, more parents reported receiving the TN newsletter in Phase II, while slightly fewer reported receiving the children's magazine in Phase II. For parents who reported receiving the Take Out Newsletters or Food Works Magazine, there was a dramatic increase from Phase I (10%) to Phase II (44%) in the percentage of parents indicating that they spent time with their children using these materials. Of those parents who reported using the newsletter "Take Out," almost all reported that they understood the information and found it useful.

From another perspective, the teachers felt that parent involvement in classroom activities was the weakest link. Many activities relied on home support that often was "just not there." For example, children were to bring in recipes from home. But despite giving the children plenty of time, very few of them ever brought in any recipes.

Table 2m. Parent Opinions of "Take Out" and "Foodworks"

	Phase	
	I	II
Percent receiving a copy of "Take Out," TN newsletter for parents.	10	21
Percent whose child received "Foodworks," TN children's magazine.	23	20
N (number of parents completing questionnaires).	(181)	(157)
Percent spending time with child using "Take Out" or "Foodworks."	10	44
N (number of parents completing questionnaires and receiving "Take Out" and/or "Foodworks").	(49)	(41)
Percent of Parents Agreeing or Agreeing Strongly That:		
"Take Out" provided useful information.	95	97
Parent could understand information in "Take Out."	100	97
N (number of parents completing questionnaires and receiving "Take Out").	(22)	(29)

2.12 LESSONS LEARNED IN DES MOINES

The experience in Des Moines provided useful information for future TN implementations. The following key factors were unique to this district and are perceived to be critical to successful implementation and management:

- Establish a Team Management Style.** Recognizing the amount of effort required, the district established a team approach to task completion early in the project. The three representatives divided responsibilities for coordinating classroom activities, food service activities, outreach, and management. This approach allowed them to provide comprehensive support according to their areas of expertise. Their team-building approach carried through to the planning committee established at the initiation of the project.

- **Utilize Consensus Building.** The management team in this district took a very methodical approach to consensus building and planning. During Phase I of implementation, they spent a great deal of time introducing the program to the schools, teachers, the administration, and community partners to generate awareness and obtain "buy-in" from key stakeholders. As a result, they established a rapport with the schools and several community partners that helped them integrate Team Nutrition into their district and ensure its continuance beyond the pilot implementation project. However, more time was needed to involve food service managers in the planning process.
- **Generate Media Coverage.** The management team felt that it was important to capitalize on community partner involvement by having them assist with the effort to generate media coverage. Partners made calls to media to generate coverage of events such as the chef's breakfast. One of the TNCs pointed out the evaluation design for the pilot constrained the districts TN media initiatives because they did not want to contaminate the experience for the students and parents from comparison schools.
- **Recognize Time Constraints.** Sufficient time is needed to establish communication links between teachers and food services. Involving food service staff in all aspects of the program will help to generate "buy-in" and also help them to understand the program more fully. For example, after the pilot project the TNCs integrated some of the TN training for teachers and food service staff. This half day joint training provided an opportunity for these two groups to get a picture of each other's role and to build relationships with one another. Time is also needed to build working relationships with chefs, media, and business community partners. Ensuring that expectations for community partners' roles are clearly delineated will help to make these partnerships more efficient.
- **Add a Physical Activity Component.** Recognizing the connection between health, food consumption, and physical activity, the TNCs and other project coordinators encouraged other district staff to develop a physical activity component to link to Team Nutrition. The district supervisor of physical education met with elementary school gym teachers to promote this connection. As a result, students in TN classes were introduced to a variety of information and activities involving physical exercise.
- **Increase Parent Participation.** Offering parents a school meal at no charge seems to be an effective method of enhancing parent participation. Choosing breakfast might be a good idea in order to fit parent schedules.

2.13 NEXT STEPS

One TNC felt that there would be some challenges to the long term success of Team Nutrition. First, financial support for the materials was an issue. The time commitment for administration of the program, teacher training, teaching lessons, and coordinating with community partners

was also of concern. The TNCs were concerned about getting and maintaining the commitment of community partners, district coordinators, and parents.

The TNCs planned to change the way Team Nutrition was implemented. The following changes were proposed in order to alleviate the time crunch for teachers and cafeteria staff:

- Spread lessons out over the school year;
- Spread core activities out over the school year;
- Complete fewer lessons per module;
- Complete fewer activities per module; and
- Integrate nutrition with other lessons more often.

Team Nutrition continued in the pilot schools and was implemented in five additional schools (including the four comparison schools) during the 1997-98 school year.

**CHAPTER 3: HAMBLLEN COUNTY/MORRISTOWN SCHOOL DISTRICT
CASE STUDY**

3.1 SETTING THE STAGE: HAMBLÉN COUNTY

Situated in a valley surrounded by lakes and mountains, the city of Morristown (population 22,000) in Hamblen County is approximately 40 miles east of Knoxville, Tennessee. There are 12 elementary schools, four middle schools, and two senior high schools, with a total enrollment of 9,000.

Table 3a summarizes information on the demographics and status of nutrition education and food service training in the pilot community prior to the introduction of Team Nutrition (TN). Information in this table was drawn from an application submitted to USDA by school districts interested in becoming pilot communities and is useful for understanding the environment into which Team Nutrition was introduced.

Table 3a. Hamblen County

Elementary School Population	Number of Elementary Schools	Percent of Elementary School Student Population Composed of Minority Students	Percent of Elementary School Students Receiving Free/Reduced Meals	Existing Nutrition Education Curricula in the District	Food Service Staff Trained in Dietary Guidelines
4,205	12	8	48	No	Yes

Prior to this project, there were no district requirements for nutrition education in elementary school classrooms (although the State requires that all ninth-graders receive a lifetime wellness curriculum that includes a nutrition component). Any nutrition education the elementary school students received was typically incorporated into the health, home living, consumer homemaking, or physical education curriculum and left to the teacher's discretion to implement. For example:

- Kindergarten students covered the Food Guide Pyramid, wise food choices, and a tasting party over a 1- to 1½-week unit.
- First-graders covered the basic food groups in conjunction with a science unit over a 1- to 2-week period.

- Fourth-graders received a unit in health that encompassed nutrition and included discussions on nutrients and maintaining a healthy body.

These lessons were supplemented by nutrition activities conducted by the School Nutrition Program (SNP) and the Nutrition Advisory Council (NAC). Examples of the supplementary activities included:

- Puppet shows on healthy snacks and the Food Guide Pyramid.
- An American School Food Service Association Poster Contest.
- A Heart Fest at the school sponsored by the American Heart Association (AHA).
- Annual Nutrition Fairs in the elementary schools.
- An annual Wellness Fest in the middle schools.
- Periodic presentations by the SNP Supervisors in the classrooms.
- Annual inservice training sessions for teachers.

The School Nutrition Program's office for Hamblen County is housed in the school district's central offices, where a staff of three is responsible for coordinating menus, central purchasing, food service training, and the hiring of food service staff. The SNP takes a very active role in nutrition education in the district, receiving Nutrition Education and Training (NET) grants for the last 4 years and teaching nutrition education in the classroom for 17 years.

This district was unique among the pilot implementation project communities because of the activity and visibility of the NAC, a student council nationally sponsored by the American School Food Service Association. The Morristown NAC has at least 20 members from middle and high schools. In addition to conducting nutrition activities throughout the school year in classrooms and the community, the NAC helps in tasting for food service/menu choices.

Food service staff receive inservice training each year, time and funding permitting. The Dietary Guidelines were the focus of the training for each of the 3 years prior to implementation of Team Nutrition.

The supervisor of School Nutrition Programs doubled as the Team Nutrition Coordinator (TNC) for the implementation project in Hamblen County schools. Her support team included the superintendent of schools, the supervisor of instruction for grades K-8, extended contract teachers, principals, school contacts, media representatives, and school nutrition managers.

3.2 PLANNING FOR TEAM NUTRITION

3.2.1 *Applying for the USDA Team Nutrition Pilot Implementation Project*

When the announcement for the pilot implementation program was disseminated, the State NET coordinator contacted and urged the SNP supervisor to apply because of her well-known interest in school-based nutrition education and other standing NET grant activities.

To garner the support of the staff and schools, the SNP supervisor discussed the program with the food service staff at an in-service meeting/training session and also with the superintendent of schools. After gaining initial support to apply for the project, the SNP supervisor contacted the elementary school principals and the elementary school supervisor.

In the original application, the district stated that its reasons for applying were to train teachers and make nutrition education materials available through the SNP office. At that time, schedules and funding did not permit the TNC to visit classrooms as much as she wanted. It was hoped that the project would enable the district to train and involve the school food service managers in nutrition education activities and to present the food service staff as a resource for nutrition education in the schools.

3.2.2 *Planning for Initial Project Implementation*

Initial planning was conducted after the application was submitted. However, after attending the start-up meeting in Washington, DC, the TNC and the elementary school supervisor realized that much work remained to be done in developing the implementation plan and recruiting support for the activities. The TNC was primarily responsible for developing the plan and at times 100 percent of her time was spent on that effort.

3.2.2.1 *Selecting and Recruiting the Schools*

Although selection of the schools was driven by the USDA criteria for identifying pairs of schools that were matched on key criteria, the TNC also looked for schools where the principals, teachers, and cafeteria staff were committed, enthusiastic, and flexible. Any school recruitment and selection problems were solved by providing incentives, such as teacher allowances to purchase nutrition materials and in-service credits for staff participation in training workshops. In addition, school recruitment was facilitated by communication between

the TNC and the principals. Final selection of schools was completed by the end of November 1995.

3.2.2.2 Selecting Activities and Building Collaborative Relationships

The following activities were included in the Phase I implementation plan submitted to USDA:

- Nutrition Fairs—one held at each implementation school.
- Breakfast with the Stars—a promotional radio event featuring school breakfast.
- Chefs Go Back to School—a chef event in each school featuring celebrity chefs from TV and local/regional restaurants.
- Parent support solicited through participation in all of the activities and parent contacts in newsletters.
- Media coverage of all events supported by an advisory group.

The TNC had experience implementing many of the activities selected for inclusion in the implementation plan such as the nutrition fairs and Breakfast with the Stars. By building on previously existing events, the TNC felt that she could effectively use resources and achieve the objectives of the program within the narrow timeframe for implementation.

Other activities, such as the chef events, were developed to fulfill USDA program requirements but also helped the SNP meet a need for outreach within their community. The TNC hoped that the events would teach the food service staff to season food differently and develop practices to help reduce fat.

3.2.2.3 Developing Relationships With the Schools

Communication with proposed pilot schools was initiated prior to the final selection of schools and development of the implementation plan. After final selection, the TNC met with the school principals, teachers, and food service staff to review program goals and the expectations for their involvement. During a series of meetings with the school representatives, school contacts were selected, and teachers and principals were offered the opportunity to participate in the decision-making process for selecting activities and scheduling teacher training.

3.2.2.4 Organizational Approach

The TNC assumed the major responsibilities for organizing the project in her district. To help oversee the project, she assembled a team that included the following: the superintendent of schools, supervisor of instruction K-8, extended contract teachers, principals, school contacts, media representatives and school nutrition managers. The TNC played a major role in the planning of, and training for, the project. Originally she planned to spend approximately 50-60 percent of her time on this project; however, as the project ensued she found that it consumed almost 100 percent of her time over the entire course of the project.

In both of the implementation schools, coordination for the project activities rested on a fourth-grade teacher who served as the school contact. The teachers, selected for their enthusiasm and organizational skills, were to serve as liaisons between the district, school food service, and other teachers. The principals viewed their role as that of a "supporter" serving to keep spirits high, handle problems, coordinate with the district office, and respond to any parent questions.

3.2.3 Planning for Phase II

The TNC planned the following school-based activities for Phase II: Breakfast with the Stars; Chef activities; a field trip to an organic farm; and a nutrition skit. Community-based activities included: an Apple Festival and a Wellness Fest. Some of the activities were different than those conducted in Phase I. For example, several activities were selected because they were appropriate for the time of year (e.g., Apple Festival, organic farm).

3.3 THE TEAM NUTRITION IMPLEMENTATION SCHOOLS

3.3.1 Key School Features

Selected characteristics for each of the implementation schools are provided in Table 3b. In addition to being similar in student makeup and structure, the schools were located within a short distance of each other.

The structure of food service was similar in both of the implementation schools. Each school had a full production kitchen with menus provided by the district office. Salad bars had been introduced to some of the schools within the past few years, including the two implementation schools. Students are encouraged to take an entree and a salad and to finish what they select.

Table 3b. Team Nutrition Implementation Schools

School	School Population	Percent of Student Population Minority	Percent Receiving Free/Reduced Meals	Type of Kitchen
Russellville	498	<1.0	39.0	Production
John Hay	271	4.4	37.0	Production

One school maintains a separate cafeteria area, but in the other, students eat in the classroom. Nutrition posters and bulletin boards describing the Food Guide Pyramid are displayed in the cafeterias and classrooms.

3.3.2 Initial Response from Principals

The implementation school principals were interviewed during an initial site visit just prior to implementation. Each of them reported feeling involved in the decision-making process. Once they agreed to participate, they discussed the program with their staff. Both of the principals were very satisfied with the school food lunch program and felt that they received good support from the food service central office.

One of the principals was very impressed that students could take as much of the lunch items as they wanted, but desired to see the school breakfast program improved by lowering the fat content. This principal's active involvement in the food service program had resulted in the addition of a salad bar and an apple juice-based slushie machine from which the children could get an afternoon snack.

The principals did not question the importance of teaching nutrition, but felt that the current curriculum was constrained by the need to prepare their students for the Tennessee standard aptitude test. They felt that expectations about teaching nutrition lessons within a limited timeframe should be realistic.

The principals hoped that nutrition education in the classroom would help students make better food choices but also felt that there were no guarantees. When interviewed, one of the principals had not seen the TN module and felt he could not comment thoughtfully on it. However, he felt that nutrition education would assist students in making better food choices "similar to the relative success achieved with smoking and drugs."

3.3.3 Phase II Feedback from Principals

Principals were also interviewed prior to Phase II implementation. Both indicated that they were very satisfied with Team Nutrition. Neither reported direct involvement in TN planning for Phase II, although one said that he felt that he had been adequately informed about what was happening. Both indicated their roles in Team Nutrition were mainly to support and encourage the teachers. One principal described himself as a role model, noting that if he is not supportive, the teachers will not think Team Nutrition is important. Both indicated that time is the biggest challenge they face in implementing Team Nutrition. Both principals also felt that Team Nutrition had an impact on teachers' attitudes about teaching nutrition. One suggested that the teachers will probably continue to teach nutrition lessons. One of the principals added "It has been a positive experience and good for the students. If we help the students, then we have met our objective."

3.4 TEACHER TRAINING FOR IMPLEMENTING THE SCHOLASTIC MODULES

3.4.1 Description of the Hamblen County Training

All of the teachers scheduled to implement the curricula in Phase I participated in the training: six kindergarten teachers, five first-grade teachers, and six fourth-grade teachers. Training was conducted over two sessions for a total of seven hours.

Because the training sessions were scheduled after the regular class day and took longer than anticipated, the main challenge was keeping the participants engaged. Although the teachers chose to schedule the training after the school day (to save the money that would have gone to pay for substitute teachers), it was difficult to keep their attention during the final hour of each of the training sessions. In addition, the scheduled start time of the first session was delayed because it conflicted with several teachers' responsibilities to provide after-school supervision of students boarding buses.

In Phase II, three new teachers were added after the beginning of the school year. They were trained by the TNC. Teachers who participated in Phase I were also a valuable resource to the new teachers.

3.4.2 Teacher Evaluations and Perceptions of the Initial Training

Although teachers at all grade levels felt the training was relevant to teaching the lessons, less than one-half thought the training was necessary to teach the lessons or that it improved their ability to teach the lessons (Table 3c).

In later interviews, teachers revealed that some of the negative views of the training were based on reactions to the scheduling. In general, teachers felt that the length of the training was excessive and the timing inconvenient. The teachers agreed that:

- the training provided the necessary tools to teach the TN module;
- the training provided sufficient opportunities to ask questions, give input, and share experiences; and
- the training materials were clear and they supported the objectives of the program.

A sample of the teacher training evaluation form is available in Appendix B.

Table 3c. Teacher Opinions of Training for Implementing the Scholastic Modules

Percent of Teachers Agreeing That:	
The training was relevant to teaching the lessons.	88
The training was necessary to teach the lessons.	47
The training improved your ability to teach the lessons.	44
N (number of teachers completing questionnaires)	(17)

The teachers said that the opportunity to get input and share ideas with other teachers was the most useful aspect of the training. However, they were frustrated with the length of the training and the unavailability of the training materials and Scholastic modules in advance of the sessions.

3.4.3 Teacher Baseline Knowledge

Teacher baseline knowledge was assessed as part of the teacher survey. The teachers completed the survey prior to being trained to use the Scholastic Modules. There were 20 items that assessed nutrition knowledge. These items can be found in Appendix C.

The average number of items correct was 13.9, with a range of scores from 9 to 19 correct. The mean scores for teachers in Hamblen County are just slightly higher than the mean correct for teachers in all pilot schools (13.3).

3.5 CLASSROOM IMPLEMENTATION OF THE SCHOLASTIC MODULES

Descriptions of modules and their components can be found in Appendix A.

3.5.1 *Teacher Opinions of Nutrition Education*

As expressed in the pre-implementation teacher survey, Hamblen County teachers in the three grade levels were unanimously positive in their interest in teaching nutrition, their desire to incorporate nutrition activities in the classroom, and their plans to do so (Table 3d). Almost all believed that the classroom is an appropriate place to teach nutrition and that students like it as much as other subjects. Fewer, but still a majority of teachers (69%) indicated that they try to influence children's food choices outside the school. As shown in Table 3e, the teachers were also in near complete agreement in their recognition of the benefits of nutrition education.

Table 3d. Teacher Motivation Prior to Phase I Implementation (Pretest Percentages)

Motivational Items	
*Percent indicating interest in teaching nutrition	100
Percent indicating interest in incorporating nutrition activities into their classrooms	100
Percent indicating that students like nutrition subjects as well as other subjects	100
Percent indicating that they try to influence the food choices their students make outside of school	69
Percent indicating that they plan to incorporate nutrition more often into their classroom activities	100
Percent indicating that the classroom is an appropriate place to teach students about nutrition	94
N (number of teachers completing questionnaires)	(17)

*Percentages based on number of teachers answering each question.

Table 3e. Percent of Teachers Agreeing With Statements Regarding the Benefits of Nutrition Education (Phase I Pretest Percentages)

Percent Agreeing With Potential Benefits of Nutrition Education	
Nutrition education in the classroom will help children choose healthier foods to eat.	94
Teaching nutrition will help reinforce other subjects that they teach.	94
Good nutrition can positively affect students' class performances.	100
N (number of teachers completing questionnaires)	(17)

3.5.2 Adherence to Curriculum

3.5.2.1 Time Spent by Teachers

As shown in Table 3f, the teachers in Hamblen County completed almost all of the lessons in the three modules in both phases. Teachers in first- and fourth-grades spent less time planning

Table 3f. Classroom Implementation of Scholastic Module

	Module 1 (Kindergarten)		Module 2 (Grade 1)		Module 3 (Grade 4)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (Per module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	7.8	7.4	7.0	7.2	8.0	8.0	7.6	7.5
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	0.7	0.9	1.5	0.9	1.9	0.8	1.4	0.8
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.4	2.0	2.4	2.0	4.2	3.6	2.7	2.5
Cumulative Duration Per Class (Hrs)²	10.7	14.8	16.7	14.5	33.5	28.6	20.5	18.8

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

and conducting the lessons in Phase II. Kindergarten teachers spent slightly more time on planning and conducting lessons in Phase II.

3.5.2.2 Number of Activities and Materials Used

In Phase I, teachers in Hamblen County completed more than half of the recommended activities (Table 3g). This is particularly true of the fourth-grade teachers, who conducted about 77 percent of the required activities. Fourth-grade teachers used almost 80 percent of the recommended materials, compared to first-grade teachers who used about 63 percent (Table 3h).

Table 3g. Average Number of Times Activities Were Conducted Per Class¹

Lesson Activity	Module 2 (Grade 1)			Module 3 (Grade 4)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	5.8	7.0	8	7.8	7.7
Activity 1	8	6.6	6.8	8	7.7	7.7
Activity 2	8	5.8	6.3	8	7.5	7.5
Activity 3	2	1.4	0.8	2	1.8	1.8
Lunchroom Link	4	2.8	1.7	4	4.3	4.5
Home Connection	7	4.4	3.2	6	4.3	5.5
Exercise Connection	0	0.0	0.2	1	0.2	0.0
Wrap It Up	8	4.0	4.5	8	5.2	3.8
Taking It Further	8	2.4	1.2	8	2.2	1.5
Total Activities	53	33.2	30.2	53	41.0	40.0

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

The Phase II pattern is similar to Phase I. Teachers conducted a majority of the recommended activities (Table 3g). However, as Table 3h illustrates, fourth-grade teachers used considerably more of the recommended materials than the teachers in the first-grade.

Table 3h. Average Number of Times Materials Were Used Per Class

	Module 2 (Grade 1)			Module 3 (Grade 4)		
	Recommended/ Available	Used		Recommended/ Available	Used	
		Phase			Phase	
Material		I	II		I	II
Parent Information Sheets (reproducibles)	7	5.6	5.3	7	5.8	6.0
Student Information Sheets (reproducibles)	8	4.6	3.7	7	6.3	6.5
Student Magazine	2	0.8	1.5	6	4.0	4.5
Video	4	2.2	1.8	5	3.2	3.2
Total Materials	21	13.2	12.3	25	19.3	20.2

Overall, the coordinators of the TN effort at the district level felt that the two schools did an "outstanding" job implementing classroom and school-wide activities. According to the TNC, the teachers could be counted on to follow through completely on all aspects of the project. Noteworthy were the fourth-grade teachers, who spent an average of 3.5 to 4 hours per lesson and taught all eight of the lessons in the module. This resulted in a cumulative duration per class of over 33 hours in Phase I and over 28 hours in Phase II.

The supervisor of the elementary school programs viewed the informal networking and sharing between teachers as facilitating factors in the completion of the lessons. As she commented, there was no need to "reinvent the wheel."

The TNC's assistance in obtaining materials for the lessons and distributing the materials to the teachers relieved some of the burden from the teachers and enabled them to focus on lesson implementation. The TNC commented that some of the materials required for the lessons were difficult to find. For example, she had to make many calls to local vendors and farm stores to find mung beans for a plant-growing activity in the fourth-grade module.

One of the challenges for the TNC was facilitating communication between the teachers, administrators, and food service staff. The principals' cooperation with the TNC contributed to a smooth implementation. One of the positive outcomes of the TN program is a closer working

relationship between teachers and food service staff. The TNC also praised the teachers for effectively communicating the nutrition messages to the students.

3.5.2.3 *Implementation Methods*

The implementation approach was consistent across schools. The teachers collaborated on approaches to lessons and activities, shared ideas and materials, but taught the curriculum to their own classes.

In Phase I, teachers presented the Scholastic materials as a separate health or nutrition curriculum. Some of the teachers selected and modified activities based on how appropriate they felt the activities were for the educational levels and personalities of their students. For instance, one teacher said that an activity was a "disaster" with her class because it required students to interact as a large group; however, it would not be a problem with a different set of students.

In Phase II, some teachers taught the lessons as a separate curriculum, while other teachers integrated the lessons into subjects such as reading, science, and social studies. Some teachers mentioned that it was difficult to complete all of the lessons in just one-half of the year. In terms of activities in Phase II, teachers were more selective in choosing those that were appropriate for their students' abilities and that would take a suitable amount of time to complete. For example, one first-grade teacher eliminated an activity requiring students to write menus because the students did not have the writing skills necessary to do this.

3.5.2.4 *Teacher Fidelity to Classroom Lessons*

All of the six teachers who were observed adhered "a great deal" to the curriculum content of the lesson plan, the highest rating on a three-point scale, as well as conducting the activities "a great deal" as described in the lesson plan. In addition, each of the teachers used the audiovisual resources and teaching materials "a great deal" in accordance with the lesson plan specifications.

The teachers also displayed enthusiasm for the lessons and seemed comfortable with the

curriculum content. Their ease was reflected in written comments provided by the classroom observer:

- "Good participation. Students demonstrated mastery of the Food Guide Pyramid knowledge."
- "Students seem very interested and seem to understand the concepts very well!"
- "Good open discussion and comments from students."
- "Students were attentive and had some very good questions. They really know the pyramid!"

3.5.3 *Teacher Attitudes Toward Scholastic Materials*

In Phase I, the Hamblen County teachers expressed very positive opinions of the Scholastic materials, with 88 percent saying they were somewhat or very satisfied with them (Table 3i). Most of the teachers said the materials were developmentally, educationally, and culturally appropriate for their students. Many also agreed that the classroom activities were appropriate for their classroom (76%). However, the TNC noted that some of the activities were too detailed and were time-consuming to prepare. Some teachers felt that they had to spend too much time preparing for the lessons because their students did not possess the knowledge assumed by the lessons. Only 59 percent said the content of the materials provided sufficient background for their teaching needs.

In contrast, an even larger proportion of the teachers said the Scholastic materials make it easy to teach about nutrition and that the materials would make them teach more about nutrition in the future. Many (82%) said the Scholastic materials were better than other nutrition teaching materials they had used. Overall, teachers were positive about the materials and activities in Phase I.

In Phase I interviews, the fourth-grade teachers reported that the lessons took far longer than anticipated, at least 7 to 8 hours per week to plan and deliver, but admitted that this was common for a new curriculum. They anticipated spending less time planning and implementing the lessons in the future. Teachers in one of the implementation schools spent a considerable amount of planning time developing evaluation worksheets for the students. Because the Scholastic curriculum was presented as a separate unit rather than integrated into the curriculum, the teachers felt they needed to develop criteria to judge the students' retention of the messages and justify the time spent on the subject.

Table 3i. Teacher Attitudes Toward Scholastic Materials

	Phase	
	I	II
Percent of Teachers Who Reported That They Were Satisfied With Scholastic Materials	94	95
Percent of Teachers Who Agree or Strongly Agree That:		
The Scholastic materials were appropriate for the developmental level of the students in my class.	94	89
The Scholastic materials were appropriate for the educational levels of the students in my class.	88	94
The Scholastic materials were culturally appropriate for the students in my class.	100	100
The activities suggested in the Scholastic materials were appropriate for my classroom.	76	90
The content of the Scholastic materials did provide sufficient background for my nutrition-related teaching needs.	88	89
The classroom activities met my nutrition-related teaching needs.	82	95
Having the Scholastic materials makes it easy to teach about nutrition.	82	95
I will teach more about good nutrition in the future if I can use the Scholastic materials again.	94	95
The Scholastic materials are better than other nutrition teaching materials I have used.	82	84
N (number of teachers completing questionnaires)	(17)	(20)

Although they felt that the materials had very good content and engaged the students' interest, they found some of the activities overwhelming and would have preferred to be able to "pick and choose" which activities they conducted. It was clear that the teachers' overall satisfaction with the materials was affected by the amount of time needed to prepare and implement the lessons. The teachers commented that they found the program "stressful" and felt "pressured," adding that they would enjoy the materials more if they were able to spread the materials out over a longer period of time.

The fourth-grade teachers felt that the lessons were appropriate to the age and developmental level of their students and could easily work in grades 3 or 5 with minor exceptions. They said that the students gained the most from interactive lessons that required them to interpret food labels and taste new foods. Students gained the least from lessons that required them to have a long attention span or advanced writing skills such as Buddy's Restaurant. Buddy's Restaurant includes activities that require students to draw pictures of restaurants and meals and compare the meals to the Food Guide Pyramid. In addition, students perform skits about

choosing balanced meals. Also, "Taking It Further" suggests that students create ads for their restaurants and write restaurant reviews.

In Phase II, teachers were even more positive about the materials. Most reported that they were generally satisfied with the Scholastic materials and that the materials were appropriate for the developmental, educational, and cultural backgrounds of their students. Teachers in Phase II felt that the activities met their nutrition-related teaching needs and were appropriate for their classrooms. Most of the teachers agreed that having the Scholastic materials makes it easy to teach about nutrition, and that they will teach more about good nutrition in the future if they can use the Scholastic materials, (both responses increasing from Phase I). Finally, many of the teachers indicated that the Scholastic materials are better than other nutrition teaching materials they have used. In general, teachers were even more positive about the materials and activities in this phase.

In this phase, 90 percent of the teachers felt that the materials provided sufficient background for their nutrition-related teaching needs. This is a substantial increase over Phase I, where only 59 percent of the teachers agreed with the same statement. The TNC suggested several reasons for the less favorable initial reactions. First, lesson objectives are listed without background or supporting information. Several activities assume teachers and students have knowledge and background, that in many cases they did not. In addition, teachers were concerned about the lack of classroom evaluation tools. Many class hours were spent on covering nutrition information, but there were no tests available to teachers for assessing what students learned. Such tests would have aided teachers in assigning grades or extra credit. Many teachers found it necessary to assign grades since so much time was spent on nutrition.

Table 3i1. Teacher Attitudes Toward Time to Teach Scholastic Modules

Percent of Teachers Who Agree or Strongly Agree That:	Phase	
	I	II
The time required to prepare to teach the Scholastic lessons was reasonable.	65	75
The time required to teach the Scholastic lessons was reasonable.	53	55

Overall, the teachers were less positive about the time required to prepare and teach the lessons. In Phase II, more teachers agreed that the time required to prepare the Scholastic

lessons was reasonable. However, there was no significant change in the percentage of teachers who agreed that the time required to teach the Scholastic lessons was reasonable.

In Phase II, one teacher was interviewed from each implementing grade in each school. Although teachers' responses were generally positive and consistent with survey data, some mentioned specific concerns. Some teachers indicated that the lessons were not age appropriate for their students. Some lessons took too long, and did not keep the younger students attention, while others were too advanced. In some cases, students needed more background. For instance, if measuring one-half of something, the students had to learn about fractions first. Another suggested that using primary print (commonly used for those learning to read and write) would be more appropriate for younger students. Others suggested that some activities were wrong for the time of year, for example, growing foods and composting. A kindergarten teacher suggested that more songs and classifying foods by colors would be helpful. Some teachers said that they would use the program in the future, but that they would modify it somewhat or try to incorporate it with other lessons such as science and social studies.

In contrast, teachers observed that students liked the "hands on" nature of activities. For example, students love eating – especially if they help to prepare the food. Another commented that the time for TN lessons was justified by the benefits provided to students.

3.5.4 *Changes in Teacher Nutrition Behaviors*

In Phase I, only two of the six fourth-grade teachers interviewed reported that the TN project changed the way they used food as an incentive or reward in the classroom. One teacher stated that "kids will be kids, and we cannot change what motivates them." Another teacher reported that she does not use food because "it backfires on you and the kids will want it for everything."

Of the six teachers interviewed in Phase II, two indicated that they do not use food as a reward at all, and three indicated that they do not do it as much as before. One teacher said that even though the training discouraged this, it was hard not to use food as a reward.

In both phases, almost all of the teachers reported that the TN project had changed their personal eating attitudes and behaviors. They cited paying closer attention to the food labels, eating more fruits and vegetables, and becoming more aware of the fat content in their diet. They also became more aware of the grain group as an important part of their diet.

3.5.5 *Involvement of Cafeteria Staff*

In Phase I, food service staff reported varied involvement in the implementation of TN both within and between schools. Responses ranged from very involved to minimally involved; however, the nature of their involvement was consistent. In both of the schools, the food service staff helped prepare food for the nutrition fairs, chef events, cafeteria tours, and classroom taste-tests. Though the food service staff's perceptions of their involvement in the activities differed, the teachers consistently recognized their contributions. One fourth-grade teacher stated, "The cafeteria ladies were great!"

In Phase II, all staff indicated that they were very involved in the implementation. Most of their involvement focused on menu changes such as lowering salt and fat content, but they also helped prepare for tasting parties and other events.

The two food service managers reported going into the classroom to talk to students during this phase. One manager talked to approximately five classes about menu changes. While one of the managers suggested that she would have enjoyed the experience more if she had more time to prepare for the talks, the other indicated that she did not like talking to the children in class because she did not like public speaking.

In both phases, food service staff indicated that working with Team Nutrition took extra time to plan and prepare for activities. In some cases, they had to have staff come in early in order to keep up with the needs of the program. However, when asked if they would recommend TN to other schools, the same staff responded positively.

- "Yes. Because it is important to get everybody involved. That is what makes it successful."
- "Yes. Because it is for the kids. They will be healthier adults."
- "They are eating more fruits and vegetables. Before, they came through the line and just wanted a sandwich and fries, but since the training in the classroom, they are a lot more educated about what their body needs and are eating a lot more vegetables."

3.6 IMPLEMENTATION OF SCHOOL-BASED CORE ACTIVITIES

Phase I

A timeline depicting the schedule of events in Phase I is provided in Figure 3a. The core activities in this district were conducted at the two implementation schools. Each of the three

activities was designed to attract media attention and enlist community participation. Therefore, there are no large distinctions between the district and school-wide activities that the USDA directed the communities to conduct. This section briefly describes the community/school-wide activities used in Hamblen County to reinforce and support the nutrition education messages of the classroom lessons.

The school and community activities conducted at the two implementation schools were:

- Chefs Go Back to School.
- Breakfast with the Stars.
- Nutrition Fairs.
- Cowboy Dan Presentation.

The overall goals of the cafeteria activities (including the chef and breakfast event) were to help the students make sound nutritional choices that would last them for a lifetime and to make the School Nutrition Program an integral part of the total educational process.

3.6.1 Chefs Go Back to School

Chef Lambert

On March 22, 1996, Chef Walter Lambert of the University of Tennessee taped a segment of his "Noon-day" news show at one of the schools. With the assistance of two pre-selected fourth-grade students from the audience, Chef Lambert prepared a fruit salad that included vegetables in the ingredients. The show aired on April 1, 1996, on the local CBS affiliate.

The chef enjoyed the experience so much that he invited students from the two schools to Knoxville to demonstrate a low-fat recipe with him on the air. Students practiced baking low-fat brownies with applesauce and then brought the TN project recipe to Chef Lambert to share with his viewing audience. The television station reported that the recipe was one of the most requested they had ever had on the program.

Chef Coburn

On May 2, 1996, Chef David Coburn, the Executive Chef of Dollywood Amusement Park, demonstrated for the students at one of the schools how to use food as decorations and

garnishes. During the course of his presentation, the chef discussed the importance of eating a variety of foods.

After the student presentation, Chef Coburn demonstrated for the school food service employees of two local school systems how to use seasonings for vegetables and meats. This presentation was not as well received as other activities directed at the food service employees because they felt it was uninformative.

3.6.2 *Breakfast with the Stars*

Breakfast with the Stars events were designed to emphasize the importance of breakfast and the relationship between sports and nutrition while providing the students with good role models. Lower fat breakfast options, such as bagels and pancakes with fruit toppings, were served. Local high school baseball, softball, and soccer players, as well as the superintendent and the assistant superintendent of schools, were invited to have breakfast with the elementary school students and their parents. In addition, local celebrity disc jockeys broadcasted live from the school cafeterias. The "stars" ate breakfast with the students and signed autographs during and after breakfast.

The events successfully engaged student interest, increased participation at school breakfast (on that day) and secured parent participation. Approximately 55 parents participated in each event. The TNC reported that it was also successful in demonstrating that high school students can act as role models for elementary school students. One student athlete commented, "I did not realize that these elementary students look up to us and consider us stars."

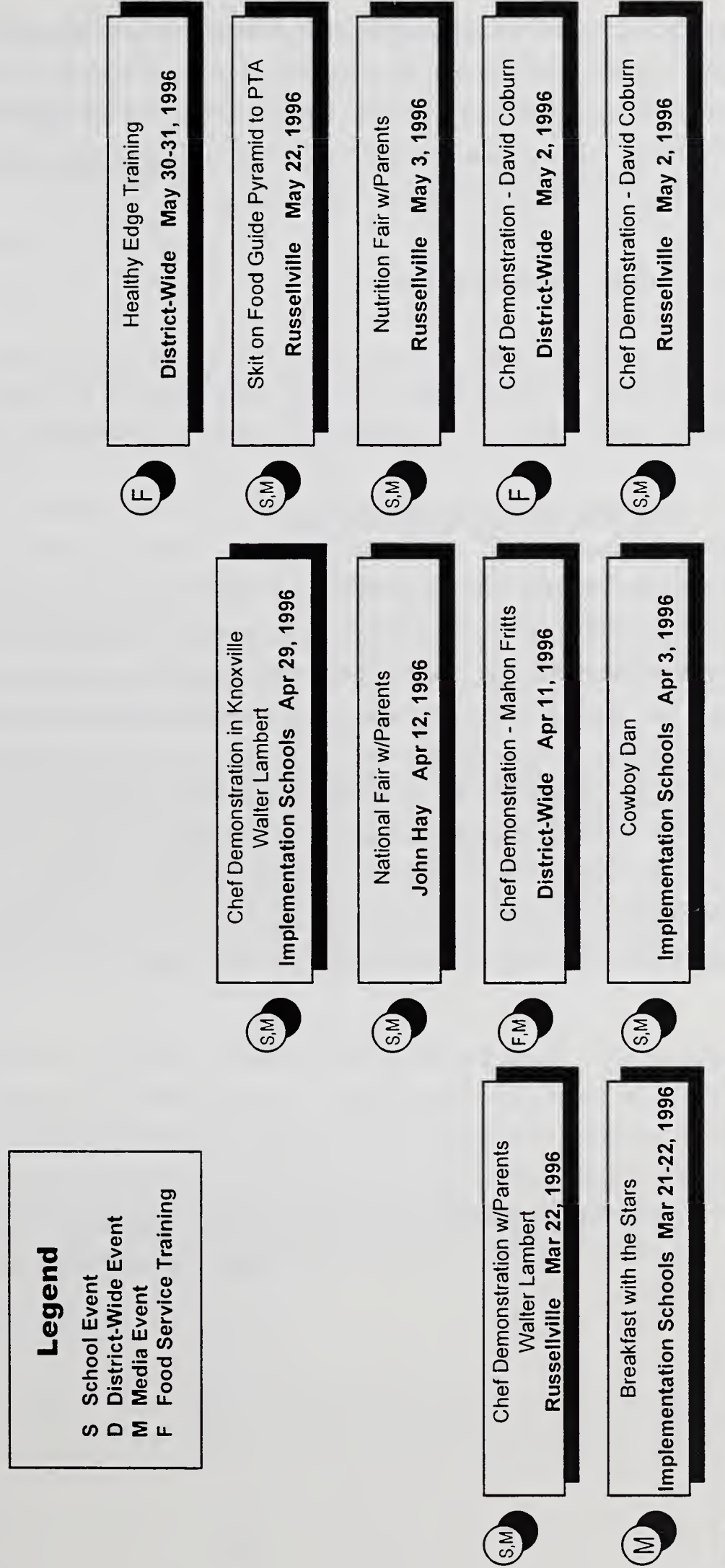
In contrast, the teachers and food service staff commented that although the students enjoyed this activity a great deal, they felt it was more promotional than educational. It was frequently cited in interviews as the event least supportive of the lesson themes.

3.6.3 *Nutrition Fairs*

The purpose of the nutrition fairs was to bring the community into the school setting by inviting the parents and community to participate in the promotion of nutrition education.

The theme of the nutrition fairs centered on the Dietary Guidelines and the Food Guide Pyramid. Students, teachers, parents, food service workers, school administrators, and community partners attended one of the two nutrition fairs (617 at one and 317 at the other).

Figure 3a: TN Core Activities Hamblen County, Tennessee—Phase I



February/March

April

May/June

An additional feature was the balloon launch that followed the nutrition fair at one of the schools. Balloon tags featured TN messages and the following instructions: "If found, please return to the nearest school cafeteria. Please write or call the student mentioned above and tell us about your school. Have a Great School Lunch!" One of the students received a call from a student in North Carolina who picked up a balloon.

3.6.4 *Cowboy Dan Presentation*

Each of the implementation schools had the opportunity to have Cowboy Dan, a singing cowboy, come to visit their school. Cowboy Dan presents a 30-minute show on nutrition and the Food Guide Pyramid. The presentations were supported by a community partner.

3.6.5 *Additional School-Wide Activities*

Early in the planning phase, the supervisor of elementary schools suggested that the TNC use "extended contract" teachers as additional support for completing activities. To receive an extended contract, teachers negotiate additional teaching or training responsibilities through the district. Two of the fourth-grade teachers at one school received extended contracts during the Spring semester. Eventually, the TNC would like to have the extended contract teachers train the comparison school teachers in using the Scholastic module, but during this implementation, the teachers conducted additional classroom activities such as developing a skit based on the Food Guide Pyramid, "The Keys to Good Nutrition Land." Written and produced by one of the fourth-grade teachers, the play was presented at a PTA meeting and an all-school assembly. The skit was so well received that the students performed it for a neighboring district later in the year.

Phase II

Figure 3b provides the schedule of events for Phase II. Some of the activities are the same as those conducted in Phase I. This section provides a brief description of the activities conducted in this phase.

In Phase II, activities conducted at the two implementation schools were:

- Breakfast with the Stars
- Egyptian Pyramid Builder Play
- Discover Tennessee

3.6.6 *Breakfast with the Stars*

Since this activity was so popular in the first phase, the TNC decided to organize the same event for Phase II. The key message of this event was the importance of breakfast. Local high school athletes who participate in Fall sports (e.g., football) were invited to come and have breakfast with the students. The most successful part of the activity was the relationship between the stars and the children who see the stars as role models. The high school students were thrilled that they were seen as role models. One student even remarked that he was going to stop chewing tobacco because he knew that the children would copy what he does. The high school principals went to the events as well, which helped to reinforce the importance of the event. The popularity of this activity required more cafeteria staff than usual.

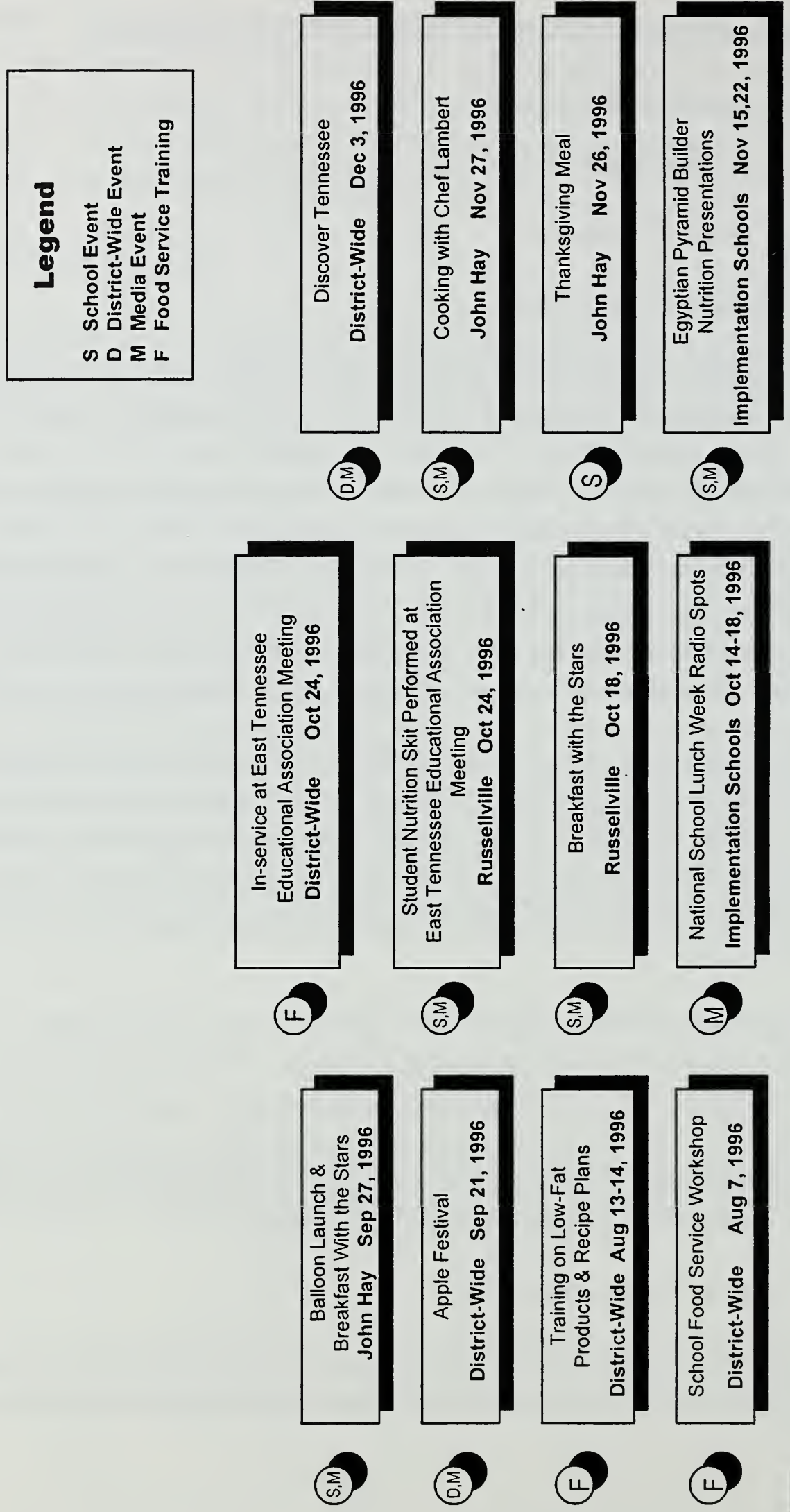
Although the TNC was not sure that the intended message (importance of breakfast) was effectively conveyed, this event was so popular and generated so much enthusiasm that they will have it again next year. The TNC indicated that some changes are being made to emphasize the nutrition messages. These include putting information about the benefits of breakfast on the invitation sent to parents and featuring students from the Nutrition Advisory Counsel as stars.

During the Phase II Breakfast with the Stars, a balloon launch was held again. The message was to eat a good school lunch and a variety of foods. It rained on the day of the launch which made it difficult to carry out. Although there was extra help, it took time to fill the balloons and tie on the tags. In the end, only one came back that had been found in West Virginia. The TNC decided that she will not repeat this activity because it was time consuming and she did not like the idea of the balloons breaking and falling everywhere.

3.6.7 *Egyptian Pyramid Builder Play*

This play explained, in an entertaining way, about eating foods from different parts of the Food Guide Pyramid. A local actress, Connie Whitehead, both developed and performed the play.

Figure 3b: TN Core Activities Hamblen County, Tennessee—Phase II



August/September

October

November/December

She modified the play for younger audiences in order to keep their attention. In part of the play, the actress talked about eating foods of different colors. The cafeteria staff said that after this play, they heard students commenting about the colors of the foods and making sure they had each color on their plate. Overall, the TNC felt that the play was successful.

The only obstacle encountered with this activity was setting up a place to do the play. In one school, they did the play in the cafeteria; in another, they did it in a common area. The TNC suggested trying to work out better logistics with principals in the future and perhaps spreading the play across several days so they would not have to rush from school to school.

3.6.8 *Discover Tennessee*

This activity was already set in place as part of the state's bicentennial celebration and tied in well with Team Nutrition. The Tennessee School Food Service Association developed a booklet emphasizing the richness and diversity of the state. It promoted use of the cafeteria as a focus for activities that were educational and focused on nutrition. One of these was to feature foods grown in Tennessee on the breakfast and lunch menus. In their classrooms, students learned where and how these foods were produced. Members of the administration, food service staff, parents, teachers, students, and the general community were all involved in this activity. Discover Tennessee was covered by the newspaper.

3.6.9 *Additional School-Wide Activities*

John Hay school conducted two additional activities during Phase II. The school hosted Chef Lambert, who talked to the parents about the importance of eating healthy and taught them how to make centerpieces from foods. Several students assisted Chef Lambert with preparations for this activity.

Another activity for fourth-graders involved having the students bring in food to prepare a "Thanksgiving Meal." They cooked and ate a stew, pumpkin pie, cornbread and tea. The teacher used other existing nutrition curricula and guides for this activity.

3.7 FOOD SERVICE ACTIVITIES AND CHANGES

When the program was initiated, neither the district nor implementation school menus had been analyzed for nutrient content using a USDA-approved software program. Lack of staff

resources as well as a lack of time to train staff and run the computer program were cited as the obstacles to completing a nutrient analysis.

Descriptions of school lunch services, food service training, and observations of food preparation include both implementation and comparison schools.

3.7.1 Description of School Lunch Services

The pilot schools in Hamblen County have on-site kitchens where full meals are prepared. The students are offered a choice of two main entrees and several vegetable and fruit selections from the salad bar, such as salad mix, broccoli, cauliflower, peaches, apples, and bananas. The exception is Witt Elementary, which offers only one entree and the salad bar. The students in Hamblen County are encouraged to take an entree as well as something from the salad bar. Also available to the students are à la carte items such as ice cream, fruit roll-ups, and various fruit juices.

In this school district, each school has a unique lunch menu so that on any one day each school prepares and offers lunch items that are different from what is provided at other schools in the district. It is not uncommon for individual schools to feature unique recipes or products. This means that across the school district there may be several recipes for the same dish. For example, there are several different fish stick products, several different chicken nugget products, and a variety of pizzas that are used across the district. In addition, each school may use recipes for soups, stews, or sauces unique to that particular school.

3.7.2 Plans for Meeting Dietary Guidelines

Respondents reported notable changes in food preparation practices that began as early as June 1993 – well before the release of the new Dietary Guidelines. To lower the fat content of the foods, food service staff have been adding less oil, using margarine instead of butter, boiling the meat in water to drain the fat, and doing more baking instead of frying. Low-fat mayonnaise is used in the tuna salad for the salad bar, and they have served more fresh vegetables. Staff consistently encourage students to try a wider variety of fruits and vegetables. Sometimes their encouragement meets with positive results. One staff member commented:

- "You know how the kids are. The first thing they do is say 'EEEW!' Then we say, 'It's good. Try it. You might like it.' We give them a little sample and a lot of times they will come back for more."

During Phase II, efforts made toward meeting the Dietary Guidelines included a further reduction in frying (e.g., using French fries that are baked versus deep-fat fried), and using Butter Buds™ (a low-fat replacement for butter) in place of margarine in recipes and when cooking vegetables. They also cooked vegetables in beef bouillon, offered more fresh and canned fruit, and washed excess fat off of meat after cooking.

The numerous recipes and food products used across district schools pose a challenge with regard to transitioning to Nutrient Standard Menu Planning (NuMenus). That is, the large quantity of recipes and product data to be entered into the nutrition software database requires more staff time than available. Even accessing standardized recipes and product data for the pilot schools proved to be a challenging and labor-intensive effort for the TNC. In a few cases product data could not be obtained. During the course of the evaluation, the TN Coordinator reported her intention to streamline the number of food products and recipes used in the district.

An effort was made to conduct an analysis of school lunch menus. However, this presented a number of measurement challenges which are addressed in Appendix D.

3.7.3 Food Service Staff Training

Formal training for food service staff did not occur until after the end of Phase I. At that time, approximately 120 food service employees, including staff of the implementation schools, received Healthy E.D.G.E. training. This ten hour course focused on changes to the Dietary Guidelines and the new USDA recipes. Healthy E.D.G.E. training covered a variety of topics including low-fat cooking; increasing fruits, vegetables, and grains; reducing salt; and making food look attractive.

Although not a formal food service training, on April 11, 1996, Chef Fritts, head chef at a local fine-dining restaurant, visited a local high school where he presented different cooking techniques to the district's food service staff. He also assisted the high school staff in preparing the new USDA recipe for chicken stir-fry. The TNC reported that the staff enjoyed Chef Fritts and his presentation. One of the staff said that she was encouraged to start her own herb garden.

Another Chef in-service was held for school nutrition program employees in May. Executive Chef David Coburn from the Dollywood Amusement Park trained the employees to use spices and discussed behind the scenes food service techniques used in a large amusement park.

Chef Coburn also extended an invitation to the employees to visit Dollywood for a guided tour of their kitchens.

In Phase II, food service staff reported participating in several training sessions. The TNC conducted sessions that reinforced the topics covered in Phase I. Some staff also participated in training sessions at the Eastern Tennessee Educational Association (ETEA) meeting at East Tennessee State University. At the ETEA meeting, Chef Lambert and his wife presented "A Matter of Taste" featuring low-fat recipes and garnishes made with food (food art).

The TNC noted that all food service employees received training on the Healthy School Meals Initiative and the Dietary Guidelines such as low-fat products and recipe plans for implementing food-based programs. Team Nutrition was included in this training, however, it was not designated as a separate training program.

3.7.4 Support to Facilitate Food Service Staff and Teacher Relationships

The TNC suggested that working together is the best way for food service staff and teachers to develop a good working relationship. In addition, the SNP should make the cafeteria available to teachers as a learning lab. The SNP managers were also encouraged to go into the classrooms more often.

3.7.5 Observations of Food Preparation

Trained observers watched the preparation of a menu on one of the days prior to and following implementation of TN in all pilot schools during both phases. Observations took place in production kitchens at the participating schools. Recipes observed in Phase I included a sausage and egg sandwich on a biscuit, baked apples, potato wedges, and fresh fruit. In Phase II they observed preparation of baked fish or turkey sandwiches, potato tots, broccoli, coleslaw, and fresh fruit.

Observers noted during both phases that food service staff did not generally display recipes during food preparation. Many of the foods served were already prepared such as, frozen vegetables or canned fruit, and did not require recipes. In other instances, food service staff often relied on their memories because they had made these items many times before. Occasionally staff estimated amounts of ingredients called for, but primarily they used measuring instruments. Serving scoops were used for individual portions; however, two of the four schools allowed students to serve themselves some of the foods. On a couple occasions,

staff estimated portion amounts like the potato wedges served in Phase I. In two schools, food service staff "eyeballed the amount" or considered the quantity that could fit in the paper serving packets to be an individual portion.

Sometimes, food service staff modified recipes. Occasionally staff added salt, margarine, or other seasonings to foods. One school added extra noodles and vegetables to chicken soup in Phase I. Another school sprinkled salt and pepper on the frozen eggs and prepared the potato wedges with margarine and salt before baking. In Phase II, the food service staff in one school added salt and pepper to broccoli and another added salt and Butter Buds™ to flavor the broccoli and peas.

The food service staff used low-fat practices when they could. In both phases, staff trimmed fat and/or drained fat from meats before baking. Over time, staff increasingly baked rather than fried foods. In Phase I, fish filets, chicken fingers, French fries, and tater tots were fried in a deep fat fryer. In Phase II, most schools no longer fried these items. At one school, the observer was told that the deep fat fryer was only used three times during Phase II. The schools tried to use low-fat sausage, sometimes made of soy, which staff felt the students did not like. In Phase II, observers noted that animal fats and butters that had been used for flavoring purposes were removed and replaced by Butter Buds™ or other fat-free seasoning. Staff sprayed baking trays with fat-free, non-stick cooking sprays and offered fat-free mayonnaise as a condiment to students. One school even made changes in à la carte items. This school switched to a low-fat version of commercially packaged muffins.

In both phases, food service staff took measures to retain the freshness of produce. Frozen or canned vegetables were steamed to maintain their firmness. The schools offered fresh fruits and vegetables such as watermelon slices, oranges, apples, and carrots. Staff added salt water or fruit juice to keep sliced apples from browning. In the schools with salad bars, items were prepared shortly before displaying them in order to keep them fresh. In Phase II, the schools prepared their own coleslaw with fresh vegetables.

Each food service staff member had specific responsibilities to prepare certain items on the day's menu. The food service managers did not spend their time observing the staff. However, they made themselves available to staff to discuss any questions about recipes or ingredients.

The food service staff pay regular attention to the students' likes and dislikes and "know what they would eat." When the food service staff at one school received complaints about a certain product, they would try not to order it again. In Phase II, food service staff at one school

indicated their awareness that food needed to be palatable, attractive, and healthy. In fact, they were proud to have reduced fat and calories without reducing the number of lunches sold. Staff were also pleased that students were still eating chicken fingers and potato wedges that were baked instead of fried. However, they noted that the students did not like French fries baked and unsalted. Food service staff at another school felt that students would eat certain items regardless of whether they were baked or fried.

In addition to posters about food preparation and procedures, all schools in both phases displayed many posters about nutrition in the cafeteria and lunch line. There were a combination of USDA TN posters with the Disney characters, Food Guide Pyramid posters, and other nutrition-related posters about topics such as fruits, vegetables, and milk. One school had a 3-D Food Guide Pyramid hanging over the lunch line. Food service workers wore t-shirts with nutrition logos on them as well as buttons and pins. At one school, "thank you" notes from the children to the cafeteria staff were hung on the walls. This school also displayed international flags and pictures of the foods associated with each country.

During Phase I, an observer indicated food service workers encouraged positive food choices as students went through the food line. In Phase II, an observer at one school commented that many factors contributed to making lunch a positive time for students, including good food, friendly faces, cleanliness, and an orderly environment.

3.8 COMMUNITY ACTIVITIES

In this district, community activities in Phase I were closely linked to the school-wide activities. Descriptions of these are included in Section 3.6.

In Phase II, there were several community-based activities that were distinctly separate from the school-wide events. First, participation in the Apple Festival served as one community activity. The TNC was aware of the Apple Festival because it was also held the previous year. The TNC saw an opportunity for inserting a key nutrition message, that apples are good any time of the day. Because the festival had been previously planned, there was minimal effort expended by the TNC. The TNC did organize and set up a booth with TN information which took approximately 3-4 hours.

Although there were about 2000 people at the Apple Festival, only a small number picked up the nutrition information. The primary reason for this was that the booth had to be placed in an area that had access to electricity in order to run the videos on food and fitness, and this area

was not centrally located. In order to contend with this, the TNC sent out a student dressed in an apple costume to bring people back to the booth, which was somewhat successful. Next year, the TNC hopes to set up the booth in a more central location and to send out flyers in advance to promote the festival.

Another activity which started off as a school-wide activity and evolved into a community-based activity was the nutrition skit "Keys to Good Nutrition Land." The skit was originally developed during the first phase. In Phase II, a shortened version of the play was presented at the East Tennessee Educational Association meeting. The key nutrition message was the importance of a healthy diet. Teachers, school food service personnel, and a few parents and administrators made up the audience.

The students enjoyed presenting the play, but due to space and time constraints they were unable to present the entire play. Organizing and practicing for the play was time consuming. Parents helped out with the props and music. It was also helpful to have an extended contract to pay for the extra time of the coordinating teacher.

3.9 COMMUNITY PARTNERS

An active member of the community for a number of years, the TNC had a previously established network of community partners from which she drew support for TN activities. One example of the support and community rapport the TNC had developed is demonstrated by her appointment to the board of the local AHA affiliate.

These relationships allowed the TNC to develop a comprehensive initial implementation plan because she did not have to spend time during conducting outreach activities and recruiting partners. Instead, a majority of the TN community partners had familiar, clearly defined roles and responsibilities. They participated actively in the nutrition fairs at the schools by setting up education booths. In other examples, a local food store chain provided a booth on unusual fruits and vegetables, the Health Department provided a booth centered on the 5-A-Day fruit and vegetable campaign, and a local hospital provided high blood pressure screenings and information on healthy eating.

Other contributions to the fairs came from the local AHA, the University of Tennessee Extension Agents, the Farm Bureau Women's Group, the 4-H, The Washington Apple Commission, and Carson-Newman College.

New relationships were developed with local chefs. The TNC commented that these were challenging relationships to maintain. Although chefs were very interested in participating, coordinating activities with their work schedules took a great deal of effort. She suggested that other schools interested in working with chefs be conscious of last minute scheduling conflicts and make contingency plans in advance.

Because of scheduling difficulties, interviewers were able to meet with only one of the community partners in this district in Phase I. Therefore, limited information on participant satisfaction is available.

However, in Phase II, two community partners were interviewed about their involvement with Team Nutrition. Interviews were conducted with a registered dietitian from the health department and a member of the Agricultural Extension Service. Both had participated in the nutrition fair during the first phase by providing brochures and information. In Phase II, the Health Department helped by contributing materials for the Apple Festival. The Agricultural Extension was not specifically involved with any activities in this phase other than being a part of a coalition called the Tennessee Nutrition and Consumer Education Program (TNCEP), to which the TNC belongs. TNCEP works to provide nutrition education to children. An example of their activities would be supporting the development of "nutrition tubs" which have all of the materials a person would need to conduct a nutrition lesson.

The one constraint mentioned by both community partners was time. Although the planning and organizing for the nutrition fairs was not overly time consuming, it did present some problems. The booths had to be staffed for a whole day, which meant that their staff had to be available for the duration of the fair. In addition, some activities conflicted with other job commitments. One partner suggested holding fairs on weekends at local parks where parents bring their children for sporting events.

3.10 MEDIA EVENTS AND MEDIA COVERAGE

In Phase I, this district did not designate a particular event as a media event. Instead, the TNC solicited and received media coverage for all of the community and school-wide events in both phases. The chef events attracted TV coverage from the regional network affiliates, Breakfast with the Stars events generated local radio coverage, and the community and school-wide events were covered by the local newspapers.

The USDA-disseminated Disney PSAs using the characters from "The Lion King" to talk about good nutrition represented another effort to get the TN message out through the media. Eighty-two percent of the fourth-grade students surveyed recalled seeing the Disney characters Pumba and Timon talk about good nutrition on television (60% recalled seeing it many times and 22% at least once).

In Phase II, Breakfast with the Stars was again covered on local radio. In addition, radio spots ran during National School Lunch Week in which fourth-grade students recorded messages about the school lunch program. The spots ran in the early morning when people were getting ready for work, during the day when the students were in school, and again at the end of the day. These were short spots that made the community aware of the school lunch program and invited them to lunch.

Initially it was hard to get the station to run the spots in the morning and evening, but the TNC persisted and the station cooperated. The TNC also arranged a schedule for the students to record their messages and their parents took them to the station. Although the activity was time consuming, the TNC felt that this was very successful, and she plans to do this again during National School Breakfast Week.

3.11 PARENT INVOLVEMENT

3.11.1 *Parent Awareness of Team Nutrition*

In both phases, parents of the TN students were involved through the media, by attending school-wide and community-wide activities, by assisting with activities (e.g., bringing students to the radio station to record radio spots), and through take-home materials from the Scholastic modules. The telephone interviews with fourth-grade parents assessed the degree of parent awareness and involvement in various types of TN events.

The TNC indicated that the nutrition skit "Keys to Good Nutrition Land" involved many parents. The play was presented to the Parent-Teacher Organization (PTO), the student body of Russellville Elementary School, and the East Tennessee Education Association. Parents were involved in all stages of the play including: making backdrops for the stage and props; playing

music; providing transportation for after school work and rehearsals; and attending the PTO meeting. She also noted that parents were involved in Breakfast with the Stars and the Nutrition Fairs.

Table 3j. Parent Awareness of Team Nutrition

Percent of Fourth-grade Parents Reporting They:	Phase	
	I	II
Heard of Team Nutrition through any media (Net)	59	62
Heard of Team Nutrition on the television	37	40
Heard of Team Nutrition on the radio	16	22
Heard of Team Nutrition in the newspaper	42	44
Heard of any TN event (Net)	95	91
Were aware of a TN community event	59	47
Were aware of a TN classroom event	92	93
Were aware of a TN school-wide event (outside of classroom)	76	68
Participated in a TN activity	31	48
N (number of parents completing questionnaires)	(103)	(98)

The TNC hopes to increase parent participation in the future by involving more parents in planning nutrition related activities, having events similar to Breakfast with the Stars, and selecting more parents to serve on the TN Advisory Council and the student Nutrition Advisory Council.

As shown in Table 3j, slightly more parents (62%) had heard of a TN event through the media in Phase II, mostly through television and newspapers. In both phases, more than 90 percent of parents had heard of a TN event. By the end of Phase II, almost 50 percent of parents had participated in a TN activity.

3.11.2 Nutrition Education Activities in the Home

In both phases, many of the fourth-grade parents reported participating in some nutrition activity with their child at home (Table 3k). These activities included family nutrition projects, other nutrition homework, and family reading materials.

Table 3k. Percent of Fourth-grade Parents Reporting Participation in Nutrition Activities in the Home

Percent Reporting Participation in Home Activities	Phase	
	I	II
Conducted any home activities	51	48
Family nutrition projects	68	66
Other nutrition homework	64	58
Family reading materials	51	48
Other activities	24	26
N (number of parents completing questionnaires)	(103)	(98)

In both phases, a majority of parents surveyed said they liked the parent information sheets (reproducibles), although the percentage is smaller for Phase II (Table 3l). The information sheets included activities for parents to work on with their children. They focused on different aspects of nutrition and were related to what the children were learning in school. Some examples of information sheets are "Gardening Together," "Understanding the New Nutrition Facts Label," and "Building Healthy Meals and Snacks."

Table 3l. Parent Reaction to Take Home Team Nutrition Materials (Reproducibles)

Percent of Parents Agreeing or Agreeing Strongly That:	Phase	
	I	II
Parent information sheets were interesting to child.	95	91
There was enough time to complete parent information sheet activities.	70	76
The parent information sheets were important to the child.	96	87
The child had fun doing parent information sheets.	95	85
Parent was able to understand information sheets.	96	97
Sheets gave parent other ideas to practice good nutrition.	93	94
Percent of parents who liked all or most of the parent information sheets.	86	74
N (number of parents completing questionnaires and using parent information sheets).	(80)	(78)

A much smaller percentage recalled receiving the parent newsletter or children's magazine (Table 3m). However, among those who did, there was a large increase over time in the

percent who said they spent time with their child using these materials – from 18 percent in Phase I to 46 percent in Phase II.

In general, parents who reported using information sheets said they offered new ideas and were understandable. A smaller percentage said they liked all or most of the information.

Table 3m. Parent Opinions of "Take Out" and "Foodworks"

	Phase	
	I	II
Percent receiving a copy of "Take Out," TN newsletter for parents.	17	21
Percent whose child received "Foodworks," TN children's magazine.	25	33
N (number of parents completing questionnaires).	(103)	(98)
Percent spending time with child using "Take Out" or "Foodworks."	18	46
N (number of parents completing questionnaire and receiving a copy of "Take Out" and/or "Foodworks").	(33)	(35)
Percent of Parents Agreeing or Agreeing Strongly That:		
"Take Out" provided useful information.	100	100
Parent could understand information in "Take Out."	100	100
N (number of parents completing questionnaires and receiving "Take Out").	(17)	(18)

3.12 LESSONS LEARNED IN HAMBLLEN COUNTY

There are some very important lessons to be learned from this community, including:

- **Capitalize on established networks and contacts.** The TNC had a considerable network of contacts from the beginning of the pilot. Rather than reinventing the wheel, she built Team Nutrition and its concepts into existing programs and tied it to other nutritional programs. As she frequently commented during the interviews, "I don't know how I would have accomplished it all if I had to start from scratch."

- **Anticipate a lot of work to coordinate Team Nutrition at the onset.** Originally, the TNC allocated 50 to 60 percent of her time to the project. Realistically, it consumed 80 to 90 percent and sometimes 100 percent of her time. In hindsight, the TNC felt that an additional full-time equivalent would have been helpful to the implementation.
- **Create an environment that is supportive and enthusiastic.** The professionalism and enthusiasm displayed by every member of the implementation staff of this district, from the superintendent of schools to the teachers and food service staff, worked to create a very successful program implementation. If the program is supported enthusiastically by people in prominent positions in the school district (e.g., superintendents, principals), it is more likely that this attitude will filter through to the rest of the staff.
- **Provide central support for coordinating material-gathering for lessons.** Schools and districts should be prepared to provide assistance to teachers in assembling materials and supplies for classroom lessons.
- **Get buy-in from all staff in the beginning of the program.** One reason the TNC felt that the program worked smoothly in her district was that she had the support of the principals in the implementation schools. She suggested that it is important to consider the impact the program will have on food service staff, teachers, principals, and custodians. The TNC said that teamwork is essential for the program to work.
- **Let food service staff have input into school activities.** Many details relevant to TN's comprehensive educational approach are relevant to each school's food service. The TNC felt that if the food service managers had been more involved up front, they would have been able to do a better job planning for activities.

Overall, the experience of Hamblen County demonstrates the importance of community involvement and outreach. Involvement in professional and community organizations can assist in leveraging resources and generating ideas in support of school-wide health initiatives. This is the reason that Team Nutrition strongly encourages the development of community partners. The sense of community spirit displayed by the staff and supported by the administrators contributed significantly to the successful implementation of Team Nutrition.

3.13 NEXT STEPS

The TNC felt that there would be some challenges to the long term success of Team Nutrition. First, getting teachers who were not involved in the pilot project to buy into the total TN concept would be hard because of their already busy schedules. In addition, funding is necessary for schools and teachers to purchase materials and supplies to carry out the lesson activities. Finally, cooperation between school nutrition staff and teachers is important, especially in terms

of demand on cafeteria staff to provide food and supplies for classroom activities during the "lunchroom links" activities.

The TNC indicated that schools changed the way Team Nutrition was implemented in order to alleviate the time crunch for teachers and cafeteria staff in the following ways:

- Spread lessons out over the school year;
- Spread core activities out over the school year;
- Complete fewer activities per module;
- Integrate nutrition with other lessons more often.

Team Nutrition operated in both the pilot implementation and comparison schools during the 1997-98 school year. The TNC reported that Team Nutrition operated in 17 additional schools in the district.

CHAPTER 4: TULSA SCHOOL DISTRICT CASE STUDY

4.1 SETTING THE STAGE: TULSA AND THE TULSA PUBLIC SCHOOLS

The 43rd largest city in the United States, Tulsa, Oklahoma (population 400,000), enjoys a diverse economy of farming, oil and gas production, aerospace technology, telecommunications, and manufacturing.

The Tulsa school district serves 22,047 students in 59 elementary schools. Sixty-two percent of the children have received free or reduced-priced school lunches.

Table 4a contains information on the demographics and status of nutrition education and food service training in the pilot community prior to the introduction of Team Nutrition (TN).

Information in this table was drawn from an application submitted to USDA by school districts interested in becoming pilot communities and is useful for understanding the environment into which Team Nutrition was introduced.

Table 4a. Tulsa Public Schools

Elementary School Population	Number of Elementary Schools	Percent of Elementary School Student Population Composed of Minority Students	Percent of Elementary School Students Receiving Free/Reduced Meals	Existing Nutrition Education Curricula in the District	Food Service Staff Trained in Dietary Guidelines
22,047	59	43	62	No	No

Prior to being selected as a TN Pilot Implementation community, there were no existing district-approved nutrition education curricula. The district food service staff was unaware of any classroom curriculum or instruction; however, they believed that nutrition was covered minimally in some health education classes. In addition, the district food service staff had not received training in implementing the Dietary Guidelines at any time during the prior 2 years.

In the Tulsa District, Team Nutrition was implemented in a somewhat different context in Phase II than in Phase I. During the summer (between the phases), the Marriott Corporation assumed responsibility for food service operations in the Tulsa Public Schools. According to the TNC, while there was apprehension about the take over, this did not turn out to be a problem.

Several food service changes occurred as a result. The most significant of these was the introduction of the Nutrient Standard Menu Planning (NuMenus) approach to the school lunch program and plans to serve alternative entrees beginning in January. Food service staff had mixed feelings about the provision of alternative choices of entrees. Some expressed the opinion that this would confuse the children and slow down the food service process, while others believed that the choices were a good idea.

4.2 PLANNING FOR TEAM NUTRITION

4.2.1 Applying for the USDA Team Nutrition Pilot Implementation Project

The school district's director of Child Nutrition Services initially contacted the State Department of Education's Nutrition Services looking for a program grant to improve students' nutrition education and the relationship between food service staff and school personnel. She was referred to the TN Pilot Project and, after reviewing the information, determined that the project would be a "perfect bridge between food service and education." The superintendent of the Tulsa school district supported the decision to apply.

By the time the district learned about the project, staff had only one week to prepare the application. The application identified general plans for implementation and established that a nutrition education dietitian would serve as the full-time Team Nutrition Coordinator (TNC) and manage the project. The TNC's responsibilities included coordinating all project activities and program implementation, including interagency collaborations, parent involvement, staff development, interdisciplinary curricular integration, and the evaluation activities required under the project. The application also identified potential pilot schools selected by the TNC and the district's assistant superintendent for curriculum instruction.

4.2.2 Planning for Initial Project Implementation

4.2.2.1 Selecting and Recruiting the Schools

The list of schools identified in the application was presented to the elementary school directors (supervisors of the district's elementary school principals) for review. The directors nominated several schools and a few alternatives that they felt would be most receptive to the project.

At a meeting on November 2, 1995, the TNC presented Team Nutrition to the principals and some of the teachers of these schools. She informed them what would be required of the

participating schools, discussed their concerns, and asked for volunteers. All of the attending principals volunteered. Final selection of the schools was based on the level of interest and potential involvement of the principals, as well as the locations of the schools.

The principals' overwhelming interest in the project was believed to be a result of USDA sponsorship and the development of the curriculum by curriculum experts. The TNC felt that enlisting the support of the assistant superintendent for curriculum development was particularly essential in gaining interest and support from the schools.

4.2.2.2 Selecting Activities and Building Collaborative Relationships

As a result of that meeting, the Tulsa school district identified both the community and school-based activities to be implemented during the project, continued making contacts to build community coalitions, and prepared an implementation plan that specified the activities and the timeframe for implementation.

The implementation plan submitted to USDA on December 7, 1995, included ideas for classroom implementation, media events, and the following activities for the spring semester:

- *Safe Kids Fair*—an existing community event sponsored by Tulsa Public Schools and St. Francis Hospital's Safe Kids Coalition. Booths were set up for several nutrition-related community partners to present nutrition information. In addition, a chef presented a demonstration on safe and healthy cooking for children who prepare food at home.
- *Bread-in-a-Bag*—a cafeteria activity held at all four implementation schools. The goal was to familiarize students with wheat production, wheat products in a well-balanced diet, and to give hands-on experience making bread.
- *Fabulous Fruits and Various Vegetables of the Week*—a cafeteria event which engaged students in learning special facts about fruits and vegetables. Students determined their favorite fruits and vegetables among those on the menus during a predetermined week. Then they researched what the nutritional content was, where and how the fruit or vegetable was grown, how it was harvested, processed and prepared.
- *Fruits, Vegetables, and Grains Tasting Party*—a cafeteria and chef activity held at all four schools. These activities aimed to introduce new foods to students and new ways of preparing and presenting foods to cafeteria staff.
- *Various parent involvement activities*—including a school program where children performed a nutrition-related skit, a parent luncheon, and three parent newsletters.

School-based activities were developed by the TNC through contacts with, and presentations to, community partners such as the Oklahoma State University (OSU) Extension, Oklahoma State Department of Education, and area chefs.

4.2.2.3 Developing Relationships With the Schools

In November 1995, the TNC met with the principal and teachers of each implementation school to identify a contact person and discuss the plans for the project and the materials they would need. Principals and teachers served as the school contacts. One school designated a contact for each grade level. A second meeting with each school in January 1996, yielded ideas and feedback on the cafeteria activities, the Lunchroom Links, and the classroom activities. The TNC met with the designated school contacts in February 1996, to discuss the proposed Lunchroom Links and the materials needed for these activities.

Interviews with the four school principals before implementation revealed that three of them believed that their school's participation in the project was entirely voluntary. As one principal stated, "We don't feel it is being forced on us, and we would not have volunteered to have this program if we didn't think it would be beneficial for the children."

However, one principal acknowledged that even though participation was optional, it was clear that "refusal would not be good." This principal noted that being more involved in the school selection process might have made the project more "palatable." The other principals indicated that they felt involved in the project from the beginning, particularly since the TNC had visited the schools, talked to the principals and teachers about the project, and let them make decisions about some of the activities to be conducted.

4.2.2.4 Organizational Approach

The TNC assumed the responsibility for program planning and implementation of the project in the district. The TNC coordinated all core activities at the school, district, and community level, and served as the contact person for TN activities, media involvement, and correspondence. The TNC allocated 100 percent of her time to this project.

4.2.3 Planning for Phase II

In planning for Phase II, the TNC met with all teachers at the end of Phase I to obtain feedback on the Phase I activities and to identify those they would like to implement again. Based on these discussions and available opportunities, activities were developed for the Phase II implementation: Bread-in-a-Bag; Fruit and Vegetable Weeks; Cultural Foods Week; Parent newsletters; and school programs such as fairs or presentations for parents and students.

In addition to the school-based events, plans included a TN community event involving displays at six grocery stores in the community. Planning for the community event involved the American Heart Association (AHA). The AHA provided materials for the displays and volunteers to staff the displays.

4.3 THE TEAM NUTRITION IMPLEMENTATION SCHOOLS

4.3.1 Key School Features

The four implementation schools selected for the project were Chouteau, Mark Twain, Kerr, and Sandburg. Demographic information for each school is provided in Table 4b. All of the schools were similar to each other in terms of the percent of the student population from minority groups. The Mark Twain school had a considerably higher percentage of their students receiving free/reduced meals than the other implementation schools and the school district as a whole.

Table 4b. Team Nutrition Implementation Schools

School	School Population	Percent of Student Population Minority	Percent Receiving Free/Reduced Meals	Type of Kitchen
Chouteau	312	26.6	55.4	Combination
Mark Twain	366	21.5	93.9	Production
Kerr	407	26.5	65.1	Combination
Sandburg	212	20.7	57.0	Production

Prior to the TN pilot project, the amount of nutrition education in the four implementation schools was limited. One of the principals noted, "We've had so many changes and so many more requirements, and we're spending so much time trying to focus on the basics, that nutrition is almost an afterthought."

4.3.2 Initial Response from Principals

All of the principals indicated that they felt nutrition education was an important task for the schools. One principal commented, "It is as important to teach nutrition as it is the basic academics to help children form good habits that will last them the rest of their lives. Nutrition is a basic life skill." The principals indicated that having all of the materials available to teachers would greatly enhance their interest in teaching nutrition because they would not have to develop their own resources and lesson plans. The principals also expressed hope that the project would not only improve the quality of the food served in the school cafeteria, but also the students' food choices.

All of the principals perceived their role in the project as primarily that of "cheerleader," encouraging and supporting teachers, students, and food service personnel. One principal planned to serve as the school contact with the TNC. Another mentioned enlisting assistance for the cafeteria manager during the project because of the extra work that the project might create for cafeteria staff.

4.3.3 Phase II Feedback from Principals

At the onset of Phase II, implementation school principals were interviewed to assess their views of Team Nutrition. All of the principals at the four implementation schools were very satisfied with the TN program. They expressed the general opinion that the school menus have improved since the inception of Team Nutrition, although one principal suggested that there is too much sugar in the menus, particularly during breakfast. They also felt that Team Nutrition had demonstrated to teachers that nutrition education could be an integral part of the education provided in the classroom, although the time limitations of the pilot implementation were often difficult for teachers to meet. One principal indicated that because of Team Nutrition, nutrition had become a general topic of discussion in the school among teachers and students.

Similar to Phase I, the primary role of the principals in Phase II was described as supporting and encouraging teachers. All principals indicated that without the assistance and support of the TNC, they did not believe that the program would have been implemented as successfully. They were also not sure how fully they would be able to implement it in the future.

4.4 TEACHER TRAINING FOR IMPLEMENTING THE SCHOLASTIC MODULES

4.4.1 *Description of the Tulsa Training*

Most of the teachers participated in the 4-hour training sessions prior to implementation. This training was split into two 2-hour training sessions.

A second training session was conducted during implementation. In order to minimize the cost of substitute teachers, one-half of the teachers went for a 3-hour training session in the morning and the other half went to a session offered in the afternoon. The teachers' involvement in scheduling the training varied across schools from none to considerable.

No formal training was conducted in Phase II. The two new kindergarten teachers were trained by the other kindergarten teachers in their schools. In addition, the kindergarten teachers had planning meetings where they planned out the lessons together.

4.4.2 *Teacher Evaluations and Perceptions of the Initial Training*

As shown in Table 4c, 79 percent of the teachers felt that the training was relevant to the lessons, but less than one-half felt that the training was necessary for teaching the lessons (42%) or improved their ability to teach the lessons (46%).

Table 4c. Teacher Opinions of Training for Implementing the Scholastic modules

Percent of Teachers Agreeing That:	
The training was relevant to teaching the lessons.	79
The training was necessary for teaching the lessons.	42
The training improved your ability to teach the lessons.	46
N (number of teachers completing questionnaires)	(28)

In the second training session, the teachers' responses to questions raised by the trainers demonstrated a solid understanding of, and interest in, the nutrition concepts highlighted in the initial training. They shared their experiences of applying some of the behavioral techniques introduced in the initial training session in their classroom settings. In addition, they expressed an interest in learning more if time allowed. Despite the challenges to classroom implementation presented by having too little time to prepare and to gather supplies, the teachers noted that they had developed some resourceful methods to make better use of their time (e.g., preparing with peers and dividing responsibilities).

The general consensus was that the second session was more effective than the first. As one teacher commented, "This training session (the second) was much more useable and valuable than the first." Suggestions for future training included holding all training during the school hours, spending more time on nutrition-related background information, having the Scholastic teachers' guide, and providing more opportunities for teachers to work together and share ideas.

4.4.3 *Teacher Baseline Knowledge*

Teacher baseline knowledge was assessed as part of the teacher survey. The teachers completed the survey prior to being trained to use the Scholastic Modules. There were 20 items that assessed nutrition knowledge. These items can be found in Appendix C.

The average number of items correct was 13.6 with a range of scores from 7 to 18 correct. The mean score for teachers in Tulsa is slightly higher than the mean score for teachers in all pilot schools (13.3).

4.5 CLASSROOM IMPLEMENTATION OF THE SCHOLASTIC MODULES

Descriptions of the modules and their components can be found in Appendix A.

4.5.1 *Teacher Opinions of Nutrition Education*

As shown in Table 4d, teachers in the three participating grade levels demonstrated a high level of motivation at the start of the project for teaching nutrition, with near unanimity in the belief that the classroom is an appropriate place to teach nutrition. Nearly all of the teachers surveyed expressed a high level of enthusiasm for teaching nutrition, a desire for incorporating nutrition activities into the classroom, and plans for actually doing it. Slightly less enthusiasm

was noted for students' perceived preference for nutrition compared with other subjects and for teacher's individual motivation to influence the food choices their students make outside of school. Teachers were also nearly unanimous in their belief in the benefits of teaching nutrition (see Table 4e).

Table 4d. Teacher Motivation Prior to Phase I Implementation (Pretest Percentages)

Motivational Items	
*Percent indicating interest in teaching nutrition	97
Percent indicating interest in incorporating nutrition activities into their classrooms	100
Percent indicating that students like nutrition subjects as well as other subjects	79
Percent indicating that they try to influence the food choices their students make outside of school	76
Percent indicating that they plan to incorporate nutrition more often into their classroom activities	90
Percent indicating that the classroom is an appropriate place to teach students about nutrition	97
N (number of teachers completing questionnaires)	(30)

*Percentages based on number of teachers answering each question.

Table 4e. Percent of Teachers Agreeing With Statements Regarding the Benefits of Nutrition Education (Phase I Pretest Percentages)

Percent Agreeing With Potential Benefits of Nutrition Education	
Nutrition education in the classroom will help children choose healthier foods to eat.	96
Teaching nutrition will help reinforce other subjects that they teach.	97
Good nutrition can positively affect students' class performances.	100
N (number of teachers completing questionnaires)	(30)

4.5.2 Adherence to Curriculum

4.5.2.1 Time Spent by Teachers

As shown in Table 4f, teachers taught almost all of the Scholastic lessons in both implementation phases. In Modules 2 and 3, there was an increase between Phase I and II in the average amount of time spent teaching the lessons.

Table 4f. Classroom Implementation of Scholastic module

	Module 1 (Kindergarten)		Module 2 (Grade 2)		Module 3 (Grade 4)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (Per module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	8.0	7.5	8.0	8.0	7.3	8.0	7.8	7.8
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	1.5	0.6	1.2	0.7	1.1	1.3	1.3	0.8
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.8	1.8	2.2	2.8	1.7	2.2	1.9	2.3
Cumulative Duration Per Class (Hrs)²	14.2	13.9	17.4	22.2	12.2	17.5	14.5	17.8

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

4.5.2.2 Number of Activities and Materials Used

Table 4g provides information on the number of times activities were conducted per class for Modules 2 and 3. There was a sizable decrease in the second-grade, where teachers used 77 percent of the recommended activities in Phase I and only 66 percent of the recommended activities in Phase II. In contrast, fourth-grade teachers were fairly consistent across phases, conducting 61 percent of the activities in Phase I and 60 percent in Phase II.

Table 4g. Average Number of Times Activities Were Conducted Per Class¹

Lesson	Module 2 (Grade 2)			Module 3 (Grade 4)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	7.2	7.6	8	6.8	4.7
Activity 1	8	7.8	7.3	8	7.0	7.6
Activity 2	8	7.7	7.4	8	6.5	7.7
Activity 3	2	1.7	0.8	2	1.6	1.8
Lunchroom Link	4	4.5	3.7	4	3.7	4.1
Home Connection	7	5.1	2.5	6	3.3	2.2
Exercise Connection	0	0.2	0.0	1	0.6	0.6
Wrap It Up	8	4.1	3.7	8	1.5	2.3
Taking It Further	8	2.5	1.7	8	1.4	0.3
Total Activities	53	40.8	34.7	53	32.5	31.2

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

Teachers also shifted emphasis across different activities from one phase to the next. In second-grade, the frequency of all activities, except Getting Started, dropped slightly with the greatest decrease occurring among Home Connection activities. In fourth-grade, the most noticeable decrease occurred in Getting Started, Home Connection, and Taking it Further activities, while the most noticeable increases occurred in Activity 2 and Wrap it Up activities.

As shown in Table 4h, teachers used a majority of the available materials. While there were no dramatic differences across phases, there is some difference between grades. Second-grade teachers used proportionately more of the materials available to them.

The TNC indicated that implementation was highly successful in both phases, although the amount of time it took to conduct all of the lessons and activities was clearly a challenge to both teachers and food service staff. Overall, the lessons were viewed as excellent and the children were described as enjoying the project. The TNC reported, "Everyone was surprised at how much the children liked the curriculum. The teachers were very excited about it and the principals were very supportive."

Table 4h. Average Number of Times Materials Were Used Per Class

Material	Module 2 (Grade 2)			Module 3 (Grade 4)		
	Recommended/ Available	Used		Recommended/ Available	Used	
		Phase			Phase	
		I	II		I	II
Parent Information Sheets (reproducibles)	7	6.7	6.5	7	4.6	4.7
Student Information Sheets (reproducibles)	8	6.6	6.8	7	5.9	6.9
Student Magazine	2	1.9	2.4 ¹	6	4.2	4.9
Video	4	3.2	2.4	5	3.1	1.9
Total Materials	21	18.4	18.1	25	17.8	18.3

¹Value may be greater due to teacher using student magazine more often than recommended.

In interviews, every teacher reported feeling pressured and frustrated by the short timeframe established for implementing the Scholastic curriculum. In Phase I, teachers felt frustrated because they were confronting the normally hectic last 2 months of the school year. One teacher's comments summed up the general attitude, "I was mainly feeling too much pressure to get things done and not being able to do them. The concept is good, the activities are good, but it was putting too much into a small space, time-wise." All of the teachers felt that more time would facilitate future implementations. Teachers did not make similar comments about time in Phase II.

4.5.2.3 Implementation Methods

Interviews with fourth-grade teachers in each of the implementation schools during Phase I revealed a great deal of variability across the four schools in the method for implementing the Scholastic curriculum.

Mark Twain. There were three fourth-grade classes that rotated across three teachers who each specialized in different subjects. In this school, the teachers divided up the lessons by activities according to whether the activity could be integrated into their subjects. As a result, no teacher taught an entire lesson, and each teacher taught a single activity on three separate

occasions. This method gave individual teachers more selectivity in deciding which activities to teach.

Kerr. While the fourth-grade teachers at Kerr also taught in teams with individual teachers specializing in different subject areas, they did not divide the lessons by activities. Instead, each fourth-grade class received all eight lessons from one, but not the same, teacher.

Chouteau. The two fourth-grade teachers at Chouteau had self-contained classrooms with some rotation in the afternoons. They decided to split the TN module. Each teacher taught four lessons to both classes during the afternoon rotation.

Sandburg. Although six teachers teach fourth-grade at Sandburg, it was decided that one teacher would teach the Scholastic module to all of the fourth-grade students. This teacher initially volunteered to teach the lessons because of presumed flexibility in selecting activities. However, the activity requirements and time constraints allowed the teacher to complete only six of the eight lessons during the prescribed timeframe.

Only the teachers who opted to teach activities rather than lessons reported integrating the curriculum into their regular subjects. The other teachers taught the curriculum as a separate unit on nutrition because:

- They assumed the pilot project operated that way.
- They felt the lessons did not integrate well with what they were teaching at the time.
- They felt that the curriculum was more appropriate for science or physical education than for their specialty in language arts or social studies.

In Phase II, interviews were conducted with one kindergarten teacher, one second-grade teacher, and one fourth-grade teacher in each of the four implementation schools. In general, teachers indicated that implementation was easier because of their experiences in the Spring. As in Phase I, some teachers integrated the lessons into other subjects while others taught the lessons as separate units. However, most teachers, regardless of grade level, indicated that the curriculum would be easier to integrate with other subjects if it was spread out over the course of the school year.

At one school, teachers continued their policy made during Phase I to deviate from strict adherence to the full Scholastic curriculum. Fourth-grade teachers at this school assigned an hour for each lesson and adapted the lesson to meet this time requirement and their perceptions of what their students needed to learn.

4.5.2.4 Teacher Fidelity to Classroom Lessons

Of the 11 teachers observed, 10 (91%) adhered "a great deal" (highest rating) to the curriculum content of the lesson plan. As for activities being conducted as described in the lesson plan, nine (82%) conducted them "a great deal" as described. Ten (91%) of the teachers used the teaching materials "a great deal" as required. While only two of the teachers used audiovisual resources in the class session observed, both did so in accordance with the lesson plan.

4.5.3 Teacher Attitudes Toward Scholastic Materials

Table 4i presents information on post-implementation attitudes toward the Scholastic materials from teachers at all three grade levels. As shown in the table, teachers were generally satisfied with the materials and satisfaction increased on most dimensions from Phase I to Phase II. The biggest improvements in attitude were in teachers feeling that the Scholastic materials provided sufficient background, that the activities met their nutrition-related teaching needs, and that the Scholastic materials are better than other nutrition teaching materials. There was a comparatively smaller decrease in the percent of teachers who said they would teach more about good nutrition if they could use the Scholastic materials.

The TNC indicated that in Phase I, teachers wanted more detailed information and explanations in the Scholastic materials so that they would not have to do additional research on their own (e.g., to learn about the Recommended Daily Allowance in preparation for activities that focus on food labels). More teachers also felt that classroom activities met their nutrition-related teaching needs in Phase II, and that the Scholastic materials are better than other teaching materials they have used.

Table 4i. Teacher Attitudes Toward Scholastic Materials

	Phase	
	I	II
Percent of Teachers Who Reported That They Were Satisfied With Scholastic Materials	88	79
Percent of Teachers Who Agree or Strongly Agree That:		
The Scholastic materials were appropriate for the developmental level of the students in my class.	88	87
The Scholastic materials were appropriate for the educational levels of the students in my class.	84	87
The Scholastic materials were culturally appropriate for the students in my class.	96	100
The activities suggested in the Scholastic materials were appropriate for my classroom.	88	87
The content of the Scholastic materials did provide sufficient background for my nutrition-related teaching needs.	32	74
The classroom activities met my nutrition-related teaching needs.	56	83
Having the Scholastic materials makes it easy to teach about nutrition.	80	87
I will teach more about good nutrition in the future if I can use the Scholastic materials again.	84	74
The Scholastic materials are better than other nutrition teaching materials I have used.	54	70
N (number of teachers completing questionnaires)	(25)	(24)

Teachers in general were more positive about the time needed to prepare and teach the lessons in Phase II (Table 4i1). However, in Phase II, only 61 percent of teachers agreed that the time required to teach the lessons was reasonable.

Table 4i1. Teacher Attitudes Toward Time to Teach Scholastic Modules

	Phase	
	I	II
Percent of Teachers Who Agree or Strongly Agree That:		
The time required to prepare to teach the Scholastic lessons was reasonable.	56	78
The time required to teach the Scholastic lessons was reasonable.	52	61

Kindergarten and second-grade teachers were generally satisfied with the Scholastic module for their grade. Kindergarten teachers indicated that they would not have been able to implement the lessons without the TNC, who arranged for the necessary resources and materials. Second-grade teachers said that they would have been much less satisfied with the program if the TNC had not been available to help them.

Fourth-grade teachers tended to be less satisfied with the Scholastic module than teachers in the other grades. The primary reason for lower satisfaction was the length of the lessons and the feeling that some of the lessons were "too basic" and thus not entirely appropriate for the students' grade level.

Some fourth-grade teachers indicated that during Phase II they were more likely to adapt the Scholastic materials to "fit the way we are accustomed to teach" than they were in Phase I. They indicated that in Phase I they did not feel comfortable doing this because they were not as familiar with the curriculum. These teachers reported that the adaptation was necessary because the lessons were not academically challenging for their students. For example, two teachers noted that the Food Grows lesson was far too easy for their students, who had already done this activity in previous grades. As a result, they adapted the lesson to make it more scientific, adding information and activities from other resources.

Teachers at all grade levels were unanimous in their indication that the students enjoyed the curriculum and that they were learning from it. Some of the teachers' comments were:

- "At parent conferences, parents are mentioning it. One parent said, 'both of our children are involved in it and at dinner they discuss what food groups are in the dinner.'" (Second-grade teacher)
- "One child told me 'we had carrots for lunch today and I ate them because I tasted it in class and I know I liked it.'" (Kindergarten teacher)
- "Second-graders ask about food on their plates now, for example, what it is, what are the ingredients. They know from what food group it comes. They talk to cafeteria ladies more." (Second-grade teacher)
- "A lot of kids have become label readers and bring in labels from snacks." (Fourth-grade teacher)
- "At the beginning of the year, kids would say 'no carrots,' but now they say 'I want carrots' and they eat more fruit than ever before." (Second-grade teacher)

4.5.4 *Changes in Teacher Nutrition Behaviors*

In Phase I, only two fourth-grade teachers said that their involvement in the project changed the way they used food as an incentive in the classroom. One teacher began bringing in more nutritious snacks such as granola and flavored rice cakes. The other reconsidered using any food in the classroom. Several teachers indicated that they did not use food as an incentive in their classrooms, but two teachers said that they would continue to use candy because they felt "you had to have a treat sometime."

Interviews conducted during the Phase II implementation found that across all grade levels, five of the 12 teachers indicated that the program changed the way they use food in the classroom. These teachers said that they now either provide healthier food choices, such as pretzels instead of candy, or they replace food with alternatives such as stickers. Other teachers indicated either that they have never used food as a reward in the classroom or that there has been no change in the types of food they offer, which were already nutritious.

Most of the teachers indicated that their involvement in Team Nutrition changed their own dietary habits. These teachers indicated that Team Nutrition has made them more likely to read labels, consume less fat, and eat more fruits and vegetables. Other teachers indicated that they have always been careful about nutritional intake.

4.5.5 *Involvement of Cafeteria Staff*

In Phase I, the type and amount of cafeteria staff participation varied across the four schools. Their involvement included supplying materials to the teachers, conducting food activities for the kindergarten classes, visiting the classrooms when the children were doing an activity, and providing students with a cafeteria tour.

The cafeteria staff interviewed at the end of Phase I were generally very positive about the project. One cafeteria manager commented, "When I first found out about it, I thought 'Oh no, I don't want to do this,' but after I saw the kids' reactions, my attitude changed a lot. I'm very positive about the program now." The kitchen manager at one school, though, felt that more effective communication was needed with teachers, particularly in providing the staff with sufficient time to prepare for an activity. All of the cafeteria staff felt well supported by the TNC and believed that they worked as a team on many of the activities.

Most of the food service staff members interviewed indicated that they had observed positive changes in the students' behaviors since the project was implemented. Some of their comments included:

- "I see more fruits and vegetables being taken by the kids who are involved in Team Nutrition."
- "The intake of the Chef Salad option has increased since March. I think the kids are eating more fruits and vegetables."
- "I hear the children discuss nutrition when they come through the line, and they will stop and look at the menu analysis and talk about it and they talk about the pyramid a lot; we never heard that before."
- "The fourth-grade children are taking one percent milk instead of whole milk and are taking a plain apple instead of a caramel apple. Kids are discussing the fat content of foods among themselves, especially the girls. They say 'Should we eat that? It's got such and such grams of fat.'"

In Phase II most of the cafeteria staff were involved in the TN project through the professional training they received and through preparation of foods for the school-based activities and menus for the cultural food weeks. At one school the food service staff conducted cafeteria tours.

All food service managers felt that the work was extremely time-consuming and that they needed more help than they received. One cafeteria manager noted that she would have liked to have seen the curriculum so that she could answer some of the students' questions. She also said that she "wished the classes had included her in the menu planning" for cultural foods week. She said that some of the menus were difficult to serve and involved "too much preparation" for her and her staff.

Three of the four cafeteria managers noted that they saw differences in the childrens' lunchroom behaviors, with children more likely to take and eat the fruits and vegetables offered, particularly the fruits. One manager reported that a parent came up to her and said, "My child actually asked for broccoli at the grocery store." This manager expressed the belief that the students were tasting vegetables that they had never tried before.

4.6 IMPLEMENTATION OF SCHOOL-BASED CORE ACTIVITIES

Phase I

A timeline depicting the implementation of the various community-and school-wide activities is provided in Figure 4a.

All implementation schools conducted five school-based activities in Phase I:

- Bread-in-a-Bag.
- Fat Facts Week.
- Fruits, Vegetables, and Grains Tasting Party.
- PTA Presentations.
- Parent Newsletters.

Overall, the teachers and food service staff were very enthusiastic about these events and felt that they were "very successful." Some food service staff were concerned about the amount of extra work for them, but they all indicated that the events were beneficial for the students.

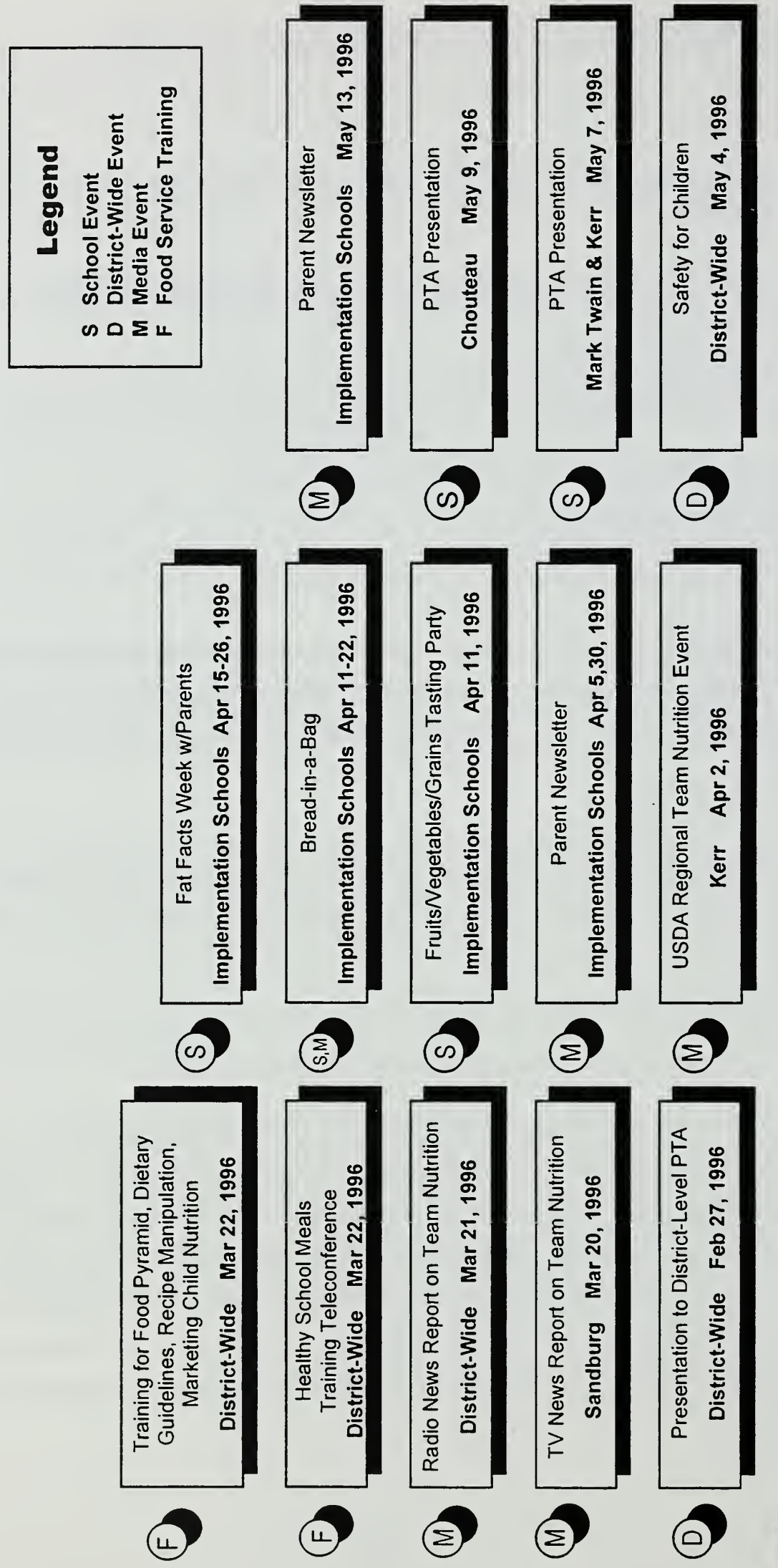
4.6.1 Bread-in-a-Bag

The Bread-in-a-Bag activity targeted primarily second and fourth-grade students. It introduced children to a major food crop produced in Oklahoma and emphasized the importance of bread in their diet.

The children observed wheat being ground and received a recipe for making Bread-in-a-Bag at home. The cafeteria staff baked the bread and the children tasted it.

Because this activity required approximately 2 hours, the major challenge in its implementation was scheduling it with the schools. Another obstacle was that the children were so excited they had difficulty keeping quiet so that everyone could hear. Despite these challenges, and the fact that one teacher was unsure of the activity's nutritional objectives, the fourth-grade teachers and cafeteria staff who were interviewed believed unanimously that the activity was excellent for children. The children were "very excited about it and learned a lot." Some children told the TNC that they had never eaten whole wheat bread before, but they would eat it now because they made it.

Figure 4a: TN Core Activities Tulsa, Oklahoma—Phase I



February/March

April

May/June

4.6.2 Fat Facts Week

Fat Facts Week was a school-wide event that involved a week of cafeteria activities. For this activity, the fourth-grade classes prepared posters of their favorite snack foods (complete with bar graphs detailing the percentage of fat in each snack) and displayed them in the cafeteria for the week. Also displayed was a nutritional analysis of the food served in the cafeteria, with specific emphasis on the amount of fat the food contained. This was so successful that the teachers asked the TNC to continue doing it at the schools throughout the rest of the year.

One day during the week, parents were invited to eat lunch with the students. During this luncheon, parents and students were given low-fat food samples to taste and an evaluation form to rate the foods on whether they liked them and wanted them again.

According to the TNC, a major challenge in implementing this activity was coordinating multiple activities in a school district. For example, two schools scheduled their parent luncheon on the same day. This required advanced planning for additional food service staff to assist in the implementation of the activity and make parent contacts.

What facilitated this activity's implementation was access to nutritional analysis through the district's Child Nutrition Program. Another benefit was the TNC's access to USDA library resources and to food vendors. Each time a vendor came to the district, the TNC asked for donations of food to take to the schools. These donations were used for taste-testing during the parent luncheon.

The TNC noted the many benefits of this activity. For the parents and teachers, the nutritional analysis was most successful in communicating the nutrition messages; while for most of the students, the fourth-graders' displays were the most successful. According to the TNC, for the younger children, the palatable taste of the low-fat foods was the key factor in transmitting the nutrition messages.

Again, the fourth-grade teachers and cafeteria staff were unanimous in their praise of the effectiveness of this activity in transmitting nutrition education messages and changing childrens' behaviors.

4.6.3 Fruits, Vegetables, and Grain-Tasting Party

For this activity, a chef held a tasting party at each school and talked about different fruits, vegetables, and grains. The major challenge to implementing this activity was the cost of food (only one chef donated the food used for the tasting). Another problem arose when chefs canceled the night before the event, compelling the TNC to find enough chefs willing to volunteer as backup chefs. Cutting up the fruits and vegetables was time consuming, but the TNC noted that cafeteria staff and even teachers volunteered to help out with this task.

The teachers, cafeteria staff, and TNC all reported that the students responded well to the chefs and that the chefs were very good about "talking at the kids' levels." The TNC noted that it was "definitely the high point of the whole program." One cafeteria manager commented that she was impressed by the kindergarten children who attended the event and tried everything at the vegetable tasting.

4.6.4 PTA Presentations

In three of the four schools, programs designed to emphasize good nutrition were presented to parents and students. At Chouteau and Mark Twain, a chef gave a presentation on healthy eating and food preparation, including some taste-testing of the foods. At Kerr, the TNC gave a presentation on healthy snacks for children and gave recipes to parents. Each of these activities was conducted to increase parent participation in Team Nutrition.

4.6.5 Parent Newsletters

Three different newsletters went to parents during Phase I. The newsletters contained information about upcoming events at each school as well as nutrition information.

Phase II

A timeline for the implementation of school-wide activities in Phase II is provided in Figure 4b. All implementation schools conducted the following school-based activities:

- Bread-in-a-Bag.
- Fruit Tasting Week.

- Vegetable Tasting Week.
- Cultural Foods Week.
- Parent Newsletters and School Programs.

Teachers and food service staff who were interviewed were generally positive about these activities, commenting that they were very successful and were coordinated with the lessons very well. Only one food service manager indicated that an activity was not well organized. All teachers praised the TNC for her efforts with these activities.

4.6.6 *Bread-in-a-Bag*

As in Phase I, Bread-in-a-Bag targeted second and fourth-grade students. It was operated in the same manner as in Phase I, and teachers were positive about the event and its impact on the children.

4.6.7 *Fruit and Vegetable Weeks*

For these activities, a different fruit or vegetable was featured for each day of the week and prepared in different ways. During each of these weeks, a chef held a tasting party at each school and talked about different fruits and vegetables. Some of the chefs cut up the vegetables or fruits into "critters" and others discussed knife use and kitchen safety. Parents were invited to lunch on the day of the chef presentation and the TNC reported that many more parents attended during Phase II (approximately 345 compared to 170 in Phase I).

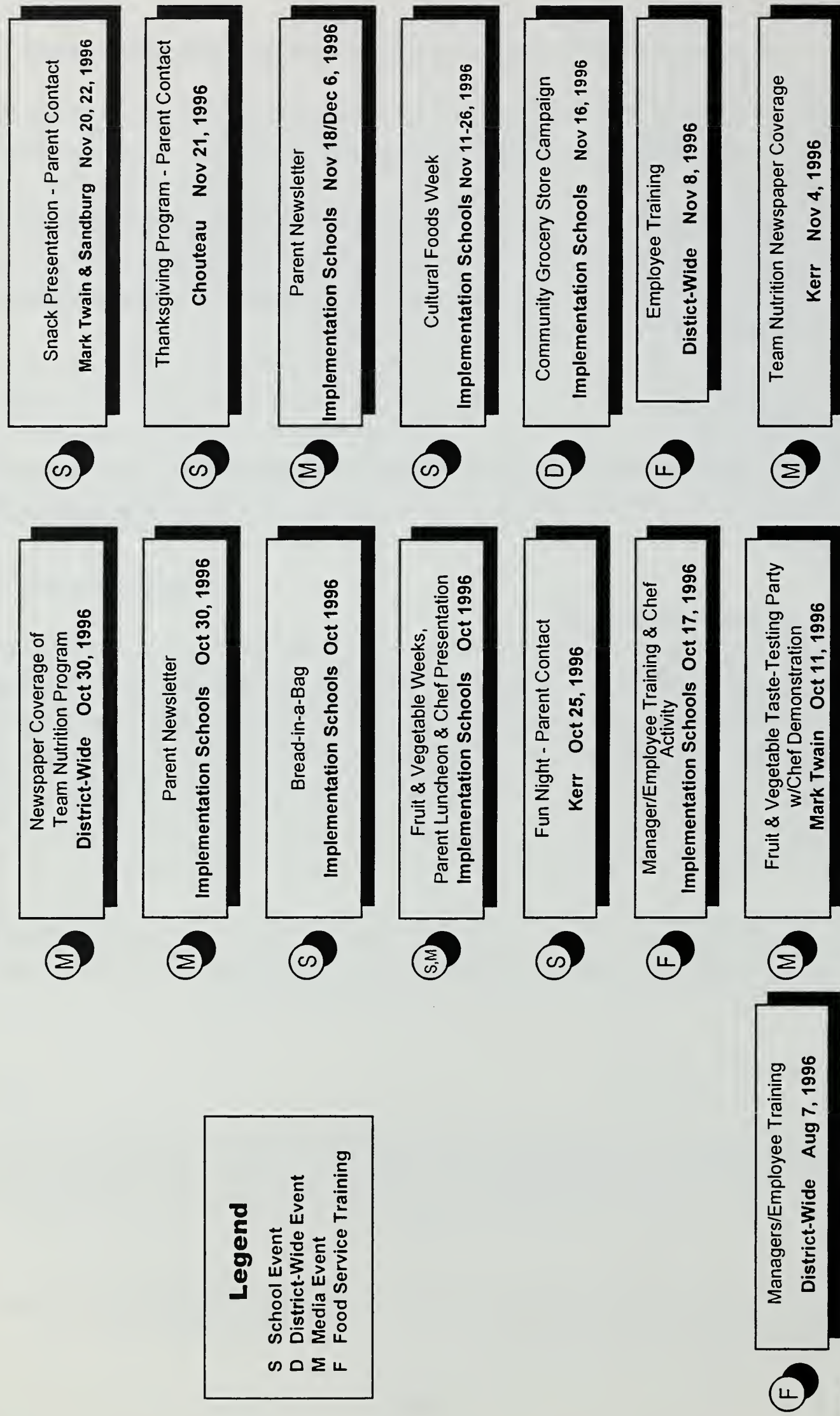
Second- and fourth-grade teachers expressed the opinion that the fruit and vegetable weeks were particularly effective in reinforcing the messages of the lessons.¹ Teachers reported that the children loved the tasting experience and the chef demonstrations.

4.6.8 *Cultural Foods Week*

For cultural foods week, the fourth-grade students planned menus and the kitchen prepared and served the menus to the entire school. The TNC and the teachers reported that students were particularly excited about this activity because they were able to design the menus

¹ Kindergarten teachers and students were not involved in the school-wide activities since these children are in school just half a day and did not use the cafeteria.

Figure 4b: TN Core Activities Tulsa, Oklahoma—Phase II



Legend

- S School Event
- D District-Wide Event
- M Media Event
- F Food Service Training

August/September

October

November/December

themselves. The cultures represented in the menus included Japanese, Italian, American, and Native American. The TNC reported that this activity was supported by the Marriott Corporation, which operates the food service at the school. Marriott allowed the TNC to purchase decoration kits for different countries to decorate the cafeteria in a culturally appropriate way.

4.6.9 *Parent Newsletters and School Programs*

In order to further enhance parent involvement, three newsletters were sent to parents during the course of the school year. These newsletters highlighted TN activities and provided nutrition information related to the messages of the special activities. An OSU intern researched and wrote the newsletters.

Schools also involved parents through special parent programs. At two schools the parent program was a snack presentation. Another school had a Thanksgiving program, part of which was devoted to nutrition and the nutritional content of traditional Thanksgiving foods.

The fourth-grade teachers in one school organized a school-wide fair (Fun Night) based on one of the Scholastic lessons called the Great Nutrition Adventure. The students' nutrition work was on display, videos were playing, and there was a Food Guide Pyramid game with prizes. In addition, there was weight and body fat checking, and pamphlets available from the AHA on healthy diets. A teacher commented, "A great night with a lot of information shared with many people in the community."

At one of the schools, the fourth-grade class made a "nutrition" village as part of an annual event at a local museum. Each Christmas the Philborn Museum sponsors a contest for exhibits made by students. In the past these have included gingerbread houses. Students from Chouteau decided to create a village made up of nutritious foods.

4.7 FOOD SERVICE ACTIVITIES AND CHANGES

Prior to the implementation of TN, Tulsa was planning menus using the food based system in order to meet the Dietary Guidelines. However, in the summer of 1996 the food service was contracted to Marriott, which used the NuMenus system. NuMenus was integrated into different schools during the Fall of 1997.

Descriptions of school lunch services, food service training, and observations of food preparation include both implementation and comparison schools.

4.7.1 Description of School Lunch Services

All of the pilot schools in Tulsa have on-site kitchens. Most of the schools prepare all of their own food in full production kitchens. The schools with smaller kitchens do not prepare baked goods such as rolls and cookies, but instead receive them from vendors. Schools' lunch services differed in the use of "offer" versus "serve" protocols. Students at "serve" schools must take everything that was prepared for that day. At "offer" schools, students must take the entree plus a minimum of two other items being offered. The other items include vegetables, fruit, bread, or milk. Several of the schools also offered a choice of two entrees. Almost all of the schools offered à la carte items such as ice cream, frozen yogurt, cookies, or various juices.

4.7.2 Plans for Meeting Dietary Guidelines

In Phase I, the district director for Child Nutrition indicated that involvement in Team Nutrition had not affected the schedule for meeting the new Dietary Guidelines for school lunches, although it had given them information on what needed to be done. The TNC and the district director noted that during the current academic year, food services had increased bread servings to 12 a week in elementary schools and had increased fruits and vegetables to 1 cup per day. They also were purchasing foods lower in fat and training kitchen staff to reduce fat in their cooking methods.

Cafeteria staff described the steps already in place to make the school meals healthier, they included:

- Reducing the amount of butter put on vegetables.
- Washing off and draining the fat from hamburger meat.
- Buying products that have less fat.
- Baking or steaming foods instead of frying.
- Increasing servings of pasta and breads.
- Offering more fresh fruits and vegetables.
- Using more fruits instead of baked goods for dessert.
- Offering more low-fat frozen desserts such as a frozen fruit bar.

- Using low-fat milk and less oil, butter, eggs, and cheese.

One manager noted that they had not started baking with applesauce in place of fat yet, but they would soon.

In Phase II, the major changes with respect to meeting the Dietary Guidelines involved using new seasonings instead of margarine, reducing cheese amounts, reducing the amount of filling in tacos, using more turkey in place of higher fat beef in fajitas, and using low-fat gravy. The district implemented NuMenus, an approach consistent with meeting the new Dietary Guidelines.

An effort was made to conduct an analysis of school lunch menus. However, this presented a number of measurement challenges which are addressed in Appendix D.

4.7.3 Food Service Staff Training

According to the TNC, food service staff training was offered to food service personnel in implementation schools on January 24, 1996, and on March 22, 1996. The training in January focused on marketing and public relations skills for food service managers and sub-managers. The training in March for 108 food service workers and managers focused on the Food Guide Pyramid; Dietary Guidelines; reducing fat, sugar, and sodium; and marketing child nutrition. During this training, TN materials were handed out; the TN video was shown; and USDA library materials, books, and videos were used. The training took 8 hours to implement and 120 hours to plan. Also during this training, a teleconference was held by the State Department of Education covering new menu planning and lowering fat in meals.

Food service staff interviewed in May either did not attend this training or had vague recollections of it. None of the line workers who were interviewed reported that they had received any nutrition training. One worker remembered a meeting where they discussed possible menus.

Only one of the four cafeteria managers interviewed reported attending an all-day meeting in March that focused on Team Nutrition. As she noted, "They talked to us about nutritional values and how to serve certain items. That's all I remember." The other cafeteria managers' recollections varied. One reported receiving training during a managers meeting in March in which they discussed Dietary Guidelines and saw a video; a second remembered that the video was on how to prepare foods and use garnishes; and the third reported that she received

training during the monthly manager's meeting but that menus were the focus of these meetings.

The TNC reported that food service staff might be unfamiliar with the training because they refer to their sessions as "Manager's Meetings" rather than training. They may not have made the connection even though they attended.

During Phase II, interviews were conducted with the cafeteria managers at each school. They noted that training was provided to them by a Marriott Hotel chef. He demonstrated how to make a seasoning mixture of salt, pepper, and garlic; how to blanch vegetables to keep them fresh and tasting good; and how to present the food in a positive way, showing garnishing techniques and different ways to cut and slice. One food service manager reported that the training helped them "think of children as customers, not just school kids." Three of the four food service managers were highly satisfied with the training, although they indicated that they would not always have time to do some of the things that they were shown. The manager who was less satisfied than the others felt that they had not been given enough alternatives regarding what they could use to season foods or cook with -- especially now that they were to reduce the use of margarine and other fats.

Training of food service staff was also conducted through manager's meetings. During these meetings, trainers discussed the NuMenus approach and the importance of keeping production records and standardizing recipes to yield accurate nutritional analyses. All of the food service staff interviewed indicated that the training was very helpful to them.

4.7.4 Support to Facilitate Food Service Staff and Teacher Relationships

The TNC suggested that several of the activities, including those in the Scholastic modules, were very good for building the food service staff-teacher relationship. Coordinating and getting these two groups together to plan activities, and asking for their input also helped to foster the relationship. The managers originally hesitated, but once they saw that the children enjoyed the activities, they were more likely to work with the teachers.

4.7.5 Observations of Food Preparation

Observations of food service workers who prepared meals for implementation and comparison schools were conducted in both phases of the project. Trained observers watched the preparation of one day's menu prior to implementation of the curriculum and again following

implementation. Observations took place in production and combination kitchens at the participating schools. During Phase I, the preparation of macaroni and cheese and smokies (sausages) were observed, in addition to tossed salad, peas and carrots, soft pretzels, and thawed frozen strawberries. Phase II recipe preparations observed included creamed turkey on mashed potatoes, green beans, and rolls.

In Phase I, food service workers usually displayed recipes during preparation. In some schools, observers noticed food service workers were not using the most current version of entree recipe which differed slightly on the amount of added fat. There were a few food service workers who relied on memory. Again in Phase II, food service workers generally displayed and used recipes. Measuring instruments were used in almost all instances for preparation of recipes and for preparing individual servings in both phases. In a few cases, food service staff made estimations because they had prepared the item so many times before and felt that they knew what to do. For example, food service staff estimated or "eyeballed the amount" of strawberries and tossed salads they put into individual containers for students.

Food service staff sometimes modified recipes by adding ingredients or substituting one ingredient for another to enhance the taste of food. Sometimes these modifications took place during preparation such as adding salt, oil, or clear shortening to the water or substituting one percent milk or water for nonfat dry milk when cooking macaroni in Phase I. One school substituted cornstarch for flour when preparing the creamed turkey in Phase II. In both phases, food service workers added salt, pepper, margarine or other seasoning to vegetables and other foods in order to enhance the flavor and encourage more students to eat. The observations at one school indicated that the food service workers added extra salt to everything in order to enhance flavor. However, another school indicated they had cut down on additives for several years in order to get children used to fewer fats and condiments in their foods. To enhance the color and appeal of food to students, some staff sprinkled paprika on top of the macaroni and cheese or added whipped topping to the fruit.

Low-fat practices used by food service workers included draining, rinsing, or trimming fat from turkey and other meats. The kitchen staff did not fry foods, but steamed and baked to help cut down on fat. In Phase I, the newer recipe for macaroni and cheese called for the use of nonfat dry milk and no butter. A few schools added butter to the macaroni since they had the older recipe to follow. Use of fat and seasoning did vary across schools. For example, in one school, margarine took the place of butter during Phase II. At this same school, instead of butter on the green beans, they used onion flakes and a little salt. In another school, the staff added extra margarine to the potatoes and green beans and brushed the tops of the rolls with oil.

Food service workers generally tried to prepare produce or canned vegetables to retain freshness. For example, one school's food service staff prepared baked potatoes that they offered as an alternative to mashed potatoes. But exceptions did occur. During both phases, one or two schools still steamed their green beans more than one hour before serving lunch, which caused them to lose some of their freshness.

In general, the food service managers worked together with their staff to prepare the food. The managers supervised and checked with their staff about recipes and ingredients while they prepared the food. However, the manager at one school did not observe staff – perhaps because the food service staff had worked there for a very long time.

Throughout most of the schools, the food service staff were observed discussing the quality, taste, and healthfulness of food. In both phases, food service staff made comments about students' preferences for specific foods. For example, they noticed that students preferred carrot and celery sticks over salads, or if they liked salad, it was without dressing. The students liked the macaroni and cheese and creamed turkey on mashed potatoes. After exposure to the "Fat Facts" exercise in lesson 5, food service staff at one school indicated female students made comments in line about watching the fat content in foods. Other observations by food service staff were made. For example, one school's food service workers indicated that generally students generally ate more during the cold weather and less when it was warm. They reasoned students hurried to go outside and play when the weather was warm and so they ate less. A food service worker at one school thought that it took more than preparing a nutritional meal to get kids to eat and reap the nutritional benefits. Another suggested that parents needed to properly train their children to eat better at home, and then perhaps they would eat better at school.

All the schools in both phases displayed procedure and preparation posters in the kitchen area and many types of nutrition-related posters throughout the serving line and cafeteria. There was an assortment of posters that included USDA Team Nutrition, the Food Guide Pyramid, other commercially-produced posters and some that the students made. Many of the posters encouraged students to eat foods such as vegetables, fruits, and milk.

Observers made a few general comments about the food service workers. Workers exhibited concern about promoting good eating habits to the students. The food service staffs cared and took pride in their work. They were in tune with each other and the students and created a pleasant setting in the cafeteria.

4.8 COMMUNITY ACTIVITIES

During Phase I, the community activity, Safe Children, was co-sponsored by the Tulsa school district and St. Francis Hospital. This event was planned independently of TN, but there were six booths devoted to Team Nutrition and its partners. Team Nutrition's booth had a chef demonstrating cooking safety and preparing healthy snacks using the TN recipes. The TN pamphlets, posters, and video were on display in the booth. Other materials included a newsletter about healthy recipes and food for tasting.

The TNC reported that about 1,000 people attended this event and that it was very successful. She noted that "The people who put the event together kept coming by the chef's booth and saying they were glad that we came. The chef was very popular, and parents and kids came back two or three times." The TNC's only disappointment was that the advertisements for this event did not include nutrition as an activity or Team Nutrition as a sponsor.

The community activity in Phase II was a grocery store campaign, conducted in collaboration with the AHA. A total of six grocery stores were involved, four selected by the implementation schools as a store in their community and two selected by AHA volunteers and staff.

For this event, volunteers from the AHA staffed display stations at grocery stores to hand out nutrition information and to talk to shoppers about nutrition. The activity was conducted on a Saturday for 4 hours.

Although the activity was viewed as successful at some of the grocery stores, both the AHA and the TNC felt that there was not enough planning time to implement effectively. Some of the volunteers had a very positive experience while others felt that store managers "put them in the back of the store" and they were not able to make contact with very many people. It was estimated that contact was made with approximately 500 people.

Another problem with this event was that there was very little media attention. Both the AHA and Team Nutrition sent out press releases, but only a few newspapers picked up on them and these only reported the time and place. It was also suggested that the event needed more attractions and enticements, such as free food and possibly the support of some key people in the community.

4.9 COMMUNITY PARTNERS

As described earlier, relationships with community partners in Phase I were initiated and developed by the TNC. Initially, the TNC established contacts with, and made presentations to, OSU Extension, Oklahoma State Department of Education, and area chefs. For example, in January 1996, the TNC made a presentation to the American Culinary Federation (ACF) in Tulsa and asked for volunteers for the school-based chef activities and the community event.

These groups contributed significantly to the success of several of the school-based activities. The Bread-in-a-Bag activity was developed by the Child Nutrition Programs of the Oklahoma State Department of Education. The State Nutrition, Education, and Training (NET) coordinator trained the TNC to implement the activity. Area chefs participated in the Fruits, Vegetables, and Grain-Tasting Party, and wholesale food vendors donated foods for this event as well.

The TNC was pleased with the level of involvement of community partners in these events but noted that because of the chefs' work schedules, she had to be flexible in scheduling the chef events. She had a second chef on call for some events in case the scheduled chef could not attend. In addition, she was impressed with the cooperation she received from the wholesale food vendors. They willingly supplied food donations for tastings, seeing the potential for new business.

During the winter of 1995-96, contacts were made with other individuals to obtain additional nutrition education resources and donations of food and materials for use in the school-wide and community events. These contacts included: the Sugar Association, the AHA, the Florida Department of Citrus, the American Cancer Society (ACS), the Dairy Council, Dole Foods, and Dr. Ellen Kramer from Tufts University.

Of the groups contacted, several supplied information or personally staffed booths at the Phase I community event. These included: the Supplemental Food Program for Women, Infants, and Children, the AHA, the ACS, OSU Extension, and the Tulsa County Health Department. While several organizations only brought materials and dropped them off for display, others staffed their displays, enabling the TNC to talk with them about the TN project. Even those organizations with more limited involvement expressed interest in greater future participation.

In contrast, members of the community were much more involved, donating their time and supplies to a media event. For example, the National Dairy Council provided costumes including a milk carton and a food label. High school athletes helped with the exercise

component. The school nurse provided health information, and the Southern Hills Country Club supplied a chef as well as donating food.

In Phase II, the key community partners were the AHA, OSU, and area chefs through the ACF. Oklahoma State University helped train volunteers to implement the Bread-in-a-Bag activity and provided the TNC with an intern to help with various aspects of the project. Area chefs participated in the fruits and vegetables weeks.

The AHA became involved in Phase II as a joint sponsor of the grocery store event. The representative from the AHA noted that they decided to sponsor the activity because the TN mission corresponds with their own goals of fighting heart disease. They provided most of the volunteers to staff the displays at the grocery stores. Although AHA may not do a grocery store event again, they plan to continue to work with Team Nutrition because they feel it is a natural partnership. This partner noted that Team Nutrition is "a wonderful idea and the materials were fantastic."

4.10 MEDIA EVENTS AND MEDIA COVERAGE

In Phase I, one school held a media event to coincide with a visit from USDA officials who came to learn about Team Nutrition. In honor of this visit, the TNC arranged a fair, the Great Nutrition Adventure, at which fourth-grade students spent a specified amount of time tasting food prepared by a chef and learning about snacks, the Food Guide Pyramid, health, and physical activity.

A total of six teachers, 90 fourth-grade students, three food service workers, 16 administrators, 28 people from other community organizations, and six to 10 media people participated in the event. *Tulsa World Newspaper*, all of the network affiliate TV stations, and the Tulsa School District station covered the activities. The Fox Network affiliate is considering using it as a documentary.

At another school's media event, the education reporter from a local TV station interviewed the TNC and principal, and approximately 20 second-grade students participated in a presentation on Team Nutrition during the 6 p.m. news. One minute in length, the coverage introduced Tulsa as a TN site, showed the children getting their lunches, and interviewed them about what they were learning in class. The TNC had prepared a press release and TN materials to contact the reporter.

The TNC also developed and sent a press release to a radio station reporter who subsequently interviewed the TNC and the director of Child Nutrition Services for a segment that aired on the news throughout weekend broadcasts. At two schools, a TV station crew visited during the Bread-in-a-Bag activity and filmed the children making the bread.

The TNC learned the procedures for getting media coverage at a media conference in Tulsa. At this conference, the TNC learned that sending "Thank You's" such as cookies to the media contacts that covered an event would aid in encouraging future coverage. In addition, the TNC completed tip sheets on upcoming events that included the who, what, when, and where of the events. The tip sheets were then submitted to the public relations staff at the district level who distributed the information to media contacts. In some cases, the TNC contacted media directly if she already had a contact of her own.

She provided the editor of *ACCENT*, a school newsletter, with information to write an article on Team Nutrition. The TNC further facilitated media coverage by preparing a sample article with background information on nutrition for the media to use. These contacts resulted in a plan by the Tulsa Public Schools' television studio to do a monthly nutrition show.

An article in a regional paper that serves West Tulsa discussed the Bread-in-a-Bag activity at one school and also mentioned another school. Also, two parent newsletters about TN were sent out by all four implementation schools.

The USDA-disseminated Disney PSAs used the characters from "The Lion King" to talk about good nutrition. This was apparently successful in reaching the students: 82 percent of the fourth-grade students surveyed recalled seeing the Disney characters Pumba and Timon talk about good nutrition on television (55% recalled it many times and 27% at least once).

In Phase II, a newspaper provided coverage of Team Nutrition as a whole program. However, most of the media coverage in this phase was of the activities in the schools such as the fruit and vegetable tasting parties. At one of the schools, a local television station (one of the network affiliates) came to the school and talked to the children and the chef about healthy eating. This was eventually shown as a segment on the evening news. At another school, the local community newspaper did an article on the cultural menus and chef activities.

4.11 PARENT INVOLVEMENT

4.11.1 Parent Awareness of Team Nutrition

In Phase I, parents of the TN students were potentially involved through the media, through school-wide and community-wide activities, and through take-home materials from the Scholastic modules. The telephone interviews with fourth-grade parents assessed the degree of these various types of involvement.

As shown in Table 4j, parent awareness of Team Nutrition was about equal in Phase II and Phase I. In both phases, about one-half of the parents of the fourth-grade students had heard of Team Nutrition through some form of media, and at least 90 percent had heard of some TN event being held. In Phase II, 35 percent of parents reported that they participated in a TN activity, compared to 27 percent in Phase I.

Table 4j. Parent Awareness of Team Nutrition

Percent of Fourth-grade Parents Reporting They:	Phase	
	I	II
Heard of Team Nutrition through any media (Net)	50	91
Heard of Team Nutrition on the television	39	41
Heard of Team Nutrition on the radio	10	16
Heard of Team Nutrition in the newspaper	28	28
Heard of any TN event (Net)	86	91
Were aware of a TN community event	39	48
Were aware of a TN classroom event	86	93
Were aware of a TN school-wide event (outside of classroom)	62	72
Participated in a TN activity	27	35
N (number of parents completing questionnaires)	(140)	(117)

In addition to using the Scholastic parent outreach materials, each of the implementation schools conducted a school program for all students in the school and their parents during both Phase I and II. During Phase I, the program included children's skits on nutrition

and a chef who provided taste-tests of healthy snacks and recipes for parents. During Phase II, the programs were selected by the schools and included a fun fair, which had a booth devoted to Team Nutrition, and a Thanksgiving day feast that featured nutrition information. Parents were invited to attend all of these events.

The teachers and the TNC all viewed these activities as being highly successful. Although parent involvement was not as high as the TNC had hoped, she indicated that she thought more parents had participated in the school activities during Phase II than in Phase I. In particular, she felt that having the chef activity coincide with the parent lunch was a good way of enhancing parental attendance. The TNC suggested that working more closely with PTA groups might increase parental involvement. She also suggested forming school nutrition committees to involve parents more in nutrition activities. Having the children invite their parents to activities might also increase their involvement.

4.11.2 Nutrition Education Activities in the Home

Table 4k demonstrates that approximately 80 percent of parents interviewed in each phase reported that they had conducted a nutrition activity in the home. The most frequently reported kind of activity involved the use of family reading materials.

Table 4k. Percent of Fourth-grade Parents Reporting Participation in Nutrition Activities in the Home

Percent Reporting Participation in Home Activities	Phase	
	I	II
Conducted any home activities	79	41
Family nutrition projects	36	33
Other nutrition homework	36	41
Family reading materials	59	56
Other activities	27	24
N (number of parents completing questionnaires)	(140)	(117)

As shown in Table 4l, the parent information sheets (reproducibles) were generally well received in both Phase I and Phase II by the parents. These reproducibles included activities for parents to work on with their children. They focused on different aspects of nutrition and were related to what the children were learning in school. Some examples of activities are "Gardening Together," "Understanding the New Nutrition Facts Label," and "Building Healthy Meals and Snacks." The least positive opinions were about sufficient time to use them. Even so, a majority said there was enough time to complete the information sheets.

Table 4l. Parent Reaction to Take Home Team Nutrition Materials (Reproducibles)

Percent of Parents Agreeing or Agreeing Strongly That:	Phase	
	I	II
Parent information sheets were interesting to child.	94	95
There was enough time to complete parent information sheet activities.	94	73
The parent information sheets were important to the child.	89	92
The child had fun doing parent information sheets.	94	94
The parent was able to understand information sheets.	99	92
The sheets gave the parent other ideas to practice good nutrition.	94	95
Percent of parents who liked all or most of the parent information sheets.	87	78
N (number of parents completing questionnaires and using parent information sheet).	(94)	(83)

Table 4m describes parent use of two specific take-home TN materials. Only a modest percentage of parents report receiving "Take Out" or "Foodworks" in either phase. However, there was a dramatic increase in the proportion who report using them with their child during Phase II. While 11 percent of parents reported using these materials in Phase I, 64 percent reported doing so in Phase II.

Table 4m. Parent Opinions of "Take Out" and "Foodworks"

	Phase	
	I	II
Percent receiving a copy of "Take Out," TN newsletter for parents.	24	15
Percent whose child received "Foodworks," TN children's magazine.	24	23
N (number of parents completing questionnaires).	(140)	(117)
Percent spending time with child using "Take Out" or "Foodworks."	11	64
N (number of parents completing questionnaires and receiving a copy of "Take Out" and/or "Foodworks").	(45)	(33)
Percent of Parents Agreeing or Agreeing Strongly That:		
"Take Out" provided useful information.	96	100
Parent could understand information in "Take Out."	96	100
N (number of parents completing questionnaires and receiving "Take Out").	(28)	(16)

4.12 LESSONS LEARNED IN TULSA

The implementation in Tulsa provided useful insights for future implementation of the TN Project.

With regard to the Scholastic curriculum, the Tulsa experience indicated the following:

- **Let the teachers decide.** In schools where teachers team-teach according to specific academic areas, it may be more effective if the teachers select specific activities from the lessons that are relevant to the subjects they teach rather than attempting to teach entire lessons.
- **Provide the teachers with background information.** Teachers need resources or materials that will provide them with background information on nutrition, particularly if they have not taught nutrition before. For example, when teachers tell students that it is important to eat fruit because they need Vitamin C, students want to know what Vitamin C does for their bodies.
- **Plan implementation time accordingly.** Implementation time needs to be carefully considered. The curriculum needs to be implemented over a longer timeframe so that activities and lessons can be better integrated into the existing curriculum. Teachers need to understand that each activity within each lesson may take up to 45 minutes to complete.

- **Involve staff and parents.** Because of the substantial amount of materials and supplies needed to implement the curriculum activities, schools should be prepared to provide assistance to teachers from cafeteria staff or parent volunteers in assembling materials and supplies.
- **Allow time to coordinate activities.** The Tulsa experience indicated that implementing school-and community-based activities is very time consuming and requires that a staff member be assigned responsibility for coordinating the activities. These are very important activities in a school because of their novelty, visibility, and impact on the children. After community partnerships are more firmly established, the time required for coordination may be reduced.
- **Provide assistance to districts for the development of relationships with community partners.** Building community partners and engaging the community in this type of project requires knowledge and skills related to coalition building and approaching potential partners. The TNC learned a great deal during the course of the project, but would have accomplished more if technical assistance had been available at project initiation.
- **Recognize that parent involvement takes effort.** The Tulsa experience also suggests that getting parents involved is a difficult task. Some of the ideas for maximizing parent involvement included having children write letters to invite their parents to participate, combining parent events with other high visibility activities such as chef events or Bread-in-a-Bag events, and continually asking for parent volunteers in the classroom.
- **Monitor food service preparation.** With respect to providing healthier school meals, the experience of the Tulsa project suggests that even when school districts make decisions about lowering fat or increasing servings of fruits and vegetables, these might not be adhered to uniformly by cafeteria staff. As a result, implementing healthier school meals may require a greater focus on preparation skills and increased monitoring of food preparation.
- **Make food service training relevant to employees.** The salience of the training activities for food service staff needs to be increased, and greater attempts need to be made to reach the cafeteria line workers and staff—as well as the managers.

4.13 NEXT STEPS

The TNC felt that there would be some challenges to the long term success of Team Nutrition. Money for Scholastic modules, supplies, food and books will be an obstacle in the future. Another challenge is the commitment and time Team Nutrition requires from the District Administrator and the teachers. Team Nutrition takes time away from "core" subjects, so it would help to have a school contact person who is enthusiastic about including nutrition in the curriculum. In addition, coordination of Team Nutrition takes time. It was advantageous to

have a full time coordinator to plan activities, provide resources and volunteers (such as chefs), to assist teachers with all aspects of the program, and to work with curriculum personnel.

The TNC indicated that schools changed the way Team Nutrition was implemented in order to alleviate the time crunch for teachers and cafeteria staff in the following ways:

- Spread lessons out over the school year;
- Spread core activities out over the school year;
- Complete fewer lessons per module;
- Complete fewer activities per module;
- Integrate nutrition with other lessons more often.

Team Nutrition continued in the pilot implementation schools and was initiated in comparison schools during the 1997-98 school year at the discretion of principals and teachers. Team Nutrition also operated in other schools in the district during.

CHAPTER 5: VACAVILLE UNIFIED SCHOOL DISTRICT CASE STUDY

5.1 SETTING THE STAGE: VACAVILLE UNIFIED SCHOOL DISTRICT

Vacaville (population 83,000) is located in California between San Francisco and the capital, Sacramento. It is described as a "bedroom community" for the city of Sacramento. The school district and the Air Force base are the principal local employers. With a population growth of 54 percent between 1980 and 1995, Vacaville is a growing community with a growing student population.

The community of Vacaville has two school districts—the Vacaville Unified School District and the Travis Unified School District. This case study report focuses on the activities related to the Vacaville Unified School District. The Vacaville Unified School District serves 7,548 students in 13 elementary schools. Thirty-one percent of the elementary school students have received free or reduced-price school lunches (see Table 5a.). Information in this table was drawn from an application submitted to USDA by school districts interested in becoming pilot communities and is useful to understanding the environment into which Team Nutrition (TN) was introduced.

Table 5a. Vacaville Unified School District

Elementary School Population	Number of Elementary Schools	Percent of Elementary School Student Population Composed of Minority Students	Percent of Elementary School Students Receiving Free/Reduced Meals	Existing Nutrition Education Curricula in the District	Food Service Staff Trained in Dietary Guidelines
7,548	13	35	31	Yes	No

The district also reported that prior to the implementation of Team Nutrition, each school implemented nutrition lessons according to broad criteria established by the curriculum department. In addition to a home economics course, "Beginning Foods," in grades 7 and 8 that provided students the opportunity to develop skills in food preparation, meal management, and the selection and storage of a variety of foods, the district's health curriculum included nutrition education for kindergarten and grades 2 through 5.

The district reported that neither district nor school food service staff had received training on implementing the Dietary Guidelines in the 2 years prior to the TN program.

5.2 PLANNING FOR TEAM NUTRITION

5.2.1 *Applying for the USDA Team Nutrition Pilot Implementation Project*

The State Department of Education administrator encouraged the Vacaville Unified School District to apply for the TN project. The district was interested in participating in the TN program because of Scholastic's reputation for producing quality school-based learning materials. In addition, the Board of Education and the district were interested in the well-being of the student population and were looking for avenues of support for the school food service. Team Nutrition was viewed as a way to increase the quality of food service as a whole.

The management team included the director of child nutrition and the deputy superintendent of instructional services. They initially met with key stakeholders to discuss participating in Team Nutrition. On October 31, 1995, the district Board of Education received an outline of the program and voted unanimously in favor of applying. Following Board approval, the Team Nutrition Coordinator (TNC) and deputy superintendent met with the principals to discuss the program and solicit volunteers.

5.2.2 *Planning for Initial Project Implementation*

According to interviews with the management team, Vacaville Unified School District supports considerable school autonomy in decision-making. This was illustrated during the planning process as organization for community activities and curriculum was handled by the director of school nutrition, while the planning for classroom and school-based activities was handled by the individual implementation schools.

5.2.2.1 *Selecting and Recruiting the Schools*

The effort to recruit schools for the project began with the management team reviewing the criteria established by the USDA for school selection. They compared the criteria with the characteristics of the schools in their district, taking into account potential budget issues, labor issues, location, cafeteria set-up, cafeteria management, and the relationship between the school and the district. In the end, the selected schools were willing to participate fully. Following final selection, the school principals were notified about the project by the TNC and the deputy superintendent.

The principals attended several meetings to discuss project expectations. Throughout the discussions, the management team impressed upon the schools that the project was a great opportunity and that their enthusiasm was a critical component of the project's success.

During pre-implementation interviews, principals were still uncertain about who would have responsibility for coordinating and monitoring implementation of the classroom and school-wide activities. As the program moved to implementation, administrators in each school assumed management responsibilities.

5.2.2.2 Selecting Activities and Building Collaborative Relationships

The final implementation plan submitted to the USDA on February 7, 1996, specified that the following major district-wide activities would be conducted during Phase I:

- A TN Fitness Run/Walk.
- Food Service Training.

In addition, one school planned the following activities:

- Chef Day.
- Chef Day/Book Giveaway.
- Parent/Community Open House.
- "Team Nutrition Takes to the Trail."
- Ice Cream Social Night.

The other school planned the following activities around the theme "A Pyramid of Possibilities":

- A series of parent contacts at parent/teacher committee meetings.
- Low-fat Pizza Tasting.
- Student Skit.
- Mini-Farmers Market.

The Fitness Run/Walk was selected for several reasons. The TNC thought it would be a good idea for the whole community to link fitness to nutrition. One of the elementary school principals had organized a walk for funds in the past and wanted to repeat the effort. Finally, it provided an opportunity to raise money to purchase additional Scholastic module kits for other schools in the district.

The implementation schools differed in their planning of school-wide events. At one school, the principal and a planning committee developed a calendar of events to coincide with a reading program at the school entitled "Cooking up a Storm." This program conveys messages consistent with the goals of Team Nutrition. At the other school, the TNC worked with the school contact to brainstorm on ideas and plan activities. The theme for the school was "A Pyramid of Possibilities;" however, due to the quick turnaround at the time of submission, the implementation plan lacked specific dates for activities.

The TNC utilized previously established relationships with various vendors and food brokers that operate within the California public school system to plan and implement TN events. Both of the community partners interviewed were active members of the community and heavily involved in nutrition education programs at the State and local levels.

5.2.2.3 Developing Relationships With the Schools

The management team met frequently with the contacts at the elementary schools both in person and via telephone to plan for events and evaluation activities.

5.2.2.4 Organizational Approach

The Team Nutrition Coordinator is the Director of Child Nutrition Services for her district. She worked closely with the Deputy Superintendent to facilitate the collection of evaluation data and to coordinate training and activities between the Curriculum Department and Child Nutrition Department. The TNC was responsible for making and implementing menu changes. She coordinated cafeteria activities as well as media and community events. In addition, she was responsible for nutritional analyses of menus. Approximately 30 percent of her time was originally devoted to this project; however, she estimated that she spent three to five times longer on the project than she originally planned.

The principal at one school and the vice principal at the other school were the project contacts. They were responsible for designating site coordinators, promoting the TN concept, coordinating activities and awareness within their schools, and working with the TN Coordinator and Deputy Superintendent to implement Team Nutrition.

5.2.3 Planning for Phase II

A number of school-based activities were planned for the Phase II implementation. These

included a "Sun-day" brunch with a demonstration of a solar oven; chef activities; grains by nations to demonstrate bread products from around the world; grains and greens; and a sidewalk chalk art contest. They also planned several community events including a race for good nutrition and a fitness relay. In general, an effort was made to select activities which could be planned and carried out within the available time.

Food service staff training was planned for all food service staff using materials developed by the State Department of Education. In addition, a course entitled "Cuisine for Kids" was offered to food service staff through the California Culinary Academy (CCA). The focus of this course was to prepare staff to meet the changes in the Dietary Guidelines. It was delivered by a chef whose enthusiasm and pride in his profession made the course a very positive experience, according to the TNC.

5.3 THE TEAM NUTRITION IMPLEMENTATION SCHOOLS

5.3.1 Key School Features

As shown in Table 5b, the primary demographic differences between the two implementation schools were enrollment size and the percentage of students qualifying for free and reduced-priced lunches. Callison Elementary has a somewhat larger population of students than Fairmont, with fewer receiving free/reduced meals.

The schools' cafeterias are onsite, self-contained, production kitchens capable of preparing some scratch foods. Menus are coordinated by the district office. The students have a choice of fruits and vegetables but not an entree. In addition to the lunch program, snacks are available to supplement student lunches and produce additional revenue. These items include juice, popcorn, and fruit roll-ups.

Table 5b. Team Nutrition Implementation Schools

School	School Population	Percent of Student Population Minority	Percent Receiving Free/Reduced Meals	Type of Kitchen
Callison	809	27.0	13.0	Production
Fairmont	644	31.0	42.0	Production

5.3.2 Initial Response from Principals

The administrators' satisfaction with school lunch differed at baseline. One principal was dissatisfied with the school lunch program because he believed the students should be provided more menu selection. The other administrator was satisfied with the overall program but also added that students needed more menu choices. Both principals were pleased with the quality of the food service staff in their schools and the staff's ability to interact with the students.

In general, both administrators supported nutrition education in the schools because they felt it would help students make informed decisions about food choices now and in the future. One administrator was familiar with the Dairy Council's nutrition education program and felt that it offered good information for second and fifth-grade students. He prefaced his support by noting the difficulty inherent in teaching good nutrition habits to students inundated by advertising and accustomed to the fast food habits of society.

The administrators' perceptions of their schools' recruitment into the project also differed. Although they discussed participating in the program together, one of the administrators felt uninvolved in the decision to be a TN school. He was informed about the project in a meeting memorandum and commented that information in the beginning was "very vague" and left him without a clear understanding of the evaluation.

Administrators described their role in the project similarly: both saw themselves as responsible for managing and coordinating activities with their teaching staff and viewed themselves as "complaint manager" for the food services department in the school. In addition, both discussed the project with the key stakeholders, including teachers, parents of fourth-grade students, food service staff, and administrative staff. The basic purpose of the discussions was to impart information.

Based on past experience with new curricula-based initiatives, both administrators foresaw having to address certain issues regarding program implementation with their staffs. One administrator was concerned about the teachers' reactions to the extra workload, but thought by discussing the benefits in advance he could defuse any negative reactions to TN. The other administrator was most concerned that the very short planning time made it difficult to get funding for materials to implement the curricula. He did not think that the teachers' positive attitudes toward teaching nutrition would change during the implementation of TN. At the time, he had received no complaints but felt that the situation's status depended on feedback from the teacher training.

5.3.3 Phase II Feedback from Principals

Principals were also interviewed prior to Phase II implementation. Both indicated that they were satisfied with Team Nutrition, and they were especially happy with the introduction of the new Garden Choices salad bars.

One of the principals indicated that he was very involved in planning on-site activities. The other principal was not as involved during Phase I because originally the vice principal coordinated Team Nutrition at her school. Both indicated that their role was mainly to support and encourage the teachers. They also help the teachers if needed, for example, to recruit parents to help prepare food for activities.

The principals had a different perspective regarding teacher attitudes after experiencing Phase I. However, their rationales for this differed. One principal indicated that Team Nutrition created more nutrition awareness and discussion about food groups and serving sizes, and that teachers will likely teach nutrition after the pilot study. The other principal indicated that there was some resentment because teachers were essentially told to "drop what you are doing" to teach Team Nutrition. This principal still felt that some teachers will teach nutrition again because they think nutrition education is "good" and they have the materials.

5.4 TEACHER TRAINING FOR IMPLEMENTING THE SCHOLASTIC MODULES

5.4.1 Description of the Vacaville Training

Almost all of the teachers who implemented the classroom curricula participated in the training. A total of 22 of the 25 teachers attended the training. Scheduling the training was coordinated through the school administrators, the deputy superintendent of instructional services, the TNC, and the contractor. Teachers were provided advanced notice of the date and provided general information on the content; they were not directly involved with scheduling or training content. Training was scheduled during the school day, and substitute teachers were provided by the district. Teacher training was conducted over two sessions lasting 4 hours and 3 hours, respectively.

For teacher training in Phase II, a teacher from each implementation school who had been trained in Phase I provided training to the new teachers in their school.

5.4.2 *Teacher Evaluations and Perceptions of the Initial Training*

The teachers displayed an existing knowledge of nutrition issues. However, during the first teacher training session a few of the teachers questioned the trainers about why certain foods were placed in particular parts of the Food Guide Pyramid, and the usefulness of some of the information provided on Nutrition Facts food labels. The teachers particularly objected to the implication that, according to the Food Guide Pyramid, there were "no bad foods." A frequently cited example was the inclusion of donuts in the grains group. As a result, the trainers spent extra time re-emphasizing nutritional concepts. During the second teacher training session, even though a few teachers still disagreed with the placement of several high-fat foods (e.g., French fries) in the Food Guide Pyramid, they assured the trainers that they were teaching their students according to the information provided in the teacher training.

Teachers in all grade levels expressed some dissatisfaction with the teacher training (see Table 5c). Few teachers (17%) reported that the training was necessary for teaching the lessons or that it improved their ability to teach the lessons. In general, the teachers found the training condescending and too lecture-oriented. As one participant commented, there was a "low expectation of participant's knowledge and professional expertise." The teachers suggested that future training should include more "hands-on" exercises and focus directly on nutrition information, not on teaching style and methods.

The teachers' negative views about the training persisted throughout the semester and were voiced frequently during post-implementation interviews.

Table 5c. Teacher Opinions of Training for Implementing the Scholastic modules

Percent of Teachers Agreeing That:	
The training was relevant to teaching the lessons.	61
The training was necessary for teaching the lessons.	17
The training improved their ability to teach the lessons.	17
N (number of teachers answering questionnaires)	(18)

5.4.3 *Teacher Baseline Knowledge*

Teacher baseline knowledge was assessed as part of the teacher survey. The teachers

completed the survey prior to being trained to use the Scholastic Modules. There were 20 items that assessed nutrition knowledge. These items can be found in Appendix C.

The average number of items correct was 14.1, with a range of scores from 3 to 19 correct. The mean scores for teachers in Vacaville are higher than the overall mean correct for teachers across pilot schools (13.3).

5.5 CLASSROOM IMPLEMENTATION OF THE SCHOLASTIC MODULES

Descriptions of modules and their components can be found in Appendix A.

5.5.1 *Teacher Opinions of Nutrition Education*

Their views on the training notwithstanding, every teacher indicated an interest in teaching nutrition (see Table 5d). Almost all (95%) of the teachers indicated that the classroom is an appropriate place to teach nutrition, and that they wanted to incorporate nutrition activities into their classrooms. Most said that they tried to influence the food choices their students make (86%) and that their students like nutrition as well as other subjects (81%). A somewhat smaller number (70%) actually planned to incorporate nutrition more often into their classroom activities.

Table 5d. Teacher Motivation Prior to Phase I Implementation (Pretest Percentages)

Motivational Items	
*Percent indicating interest in teaching nutrition	100
Percent indicating desire to incorporate nutrition activities into their classrooms	95
Percent indicating that students like nutrition subjects as well as other subjects	81
Percent indicating that they try to influence the food choices their students make outside of school	86
Percent indicating that they plan to incorporate nutrition more often into their classroom activities	70
Percent indicating that the classroom is an appropriate place to teach students about nutrition	95
N (number of teachers completing questionnaires)	(21)

*Percentages based on number of teachers answering each question.

As shown in Table 5e, most of the teachers recognized the benefits of teaching nutrition. Almost all (95%) of the teachers said good nutrition can positively affect class performance, while 80 percent thought nutrition education would actually help children choose healthier foods. Also, 89 percent said nutrition lessons could also reinforce other subjects they teach.

Table 5e. Percent of Teachers Agreeing With Statements Regarding the Benefits of Nutrition Education (Phase I Pretest Percentages)

Percent Agreeing With Potential Benefits of Nutrition Education	
Nutrition education in the classroom will help children choose healthier foods to eat.	80
Teaching nutrition will help reinforce other subjects that they teach.	89
Good nutrition can positively affect students' class performance.	95
N (number of teachers completing questionnaires)	(21)

5.5.2 Adherence to Curriculum

As described in Chapter 1, the Scholastic kits are composed of nine lessons for Module 1 (Pre K - K) and eight lessons each for Modules 2 (Grades 1-2) and 3 (Grades 3-5). During teacher training for the pilot, Module 1 teachers were told they should complete at least eight of the nine lessons and that they should conduct three activities per week, with no explicit instructions as to which activities. The teachers for Modules 2 and 3 were instructed to teach all eight lessons, complete the Getting Started session and each of the activities included in the lesson, complete the Lunchroom Link for at least four of the lessons, and use the student and parent reproducibles as directed in the Scholastic lessons. Adherence to the curricula was measured by the number of times the teachers reported (through activity logs) completing the recommended lessons, activities, and Lunchroom Links, as well as the degree to which they used the materials as directed. Because there were no explicit activities required for Module 1, the data on activities and materials are not used in measuring adherence for this module.

5.5.2.1 Time Spent by Teachers

As shown in Table 5f, the teachers in California completed more lessons in Phase II than in Phase I. The effect on total TN exposure in Phase II varied by grade. Kindergarten and second-grade teachers increased the total amount of class time substantially, while the average

time per lesson actually decreased a bit for second-graders. In fourth-grade classes, the time associated with teaching additional lessons was offset by shorter average time per lesson. Preparation time for second-grade teachers increased between Phase I and II, but decreased in other grades.

Table 5f. Classroom Implementation of Scholastic Module

	Module 1 (Kindergarten)		Module 2 (Grade 2)		Module 3 (Grade 4)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (Per Module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	6.3	7.8	5.0	8.0	5.6	7.8	5.6	7.9
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	1.4	1.1	1.0	1.4	1.7	0.9	1.4	1.1
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.3	1.5	2.5	2.3	2.3	1.6	2.0	1.9
Cumulative Duration Per Class (Hrs) ²	8.0	12.1	12.5	18.6	13.0	12.6	11.4	14.8

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

5.5.2.2 Number of Activities and Materials Used

In Phase I, less than one-half of the recommended activities were implemented in both second- and fourth-grades (Table 5g). While the number of lessons increased in Phase II (Table 5f), TN activities only increased in second-grade from approximately 36 percent to 59 percent of those recommended. This may explain the fact that while fourth-grade teachers completed more lessons in Phase II, the total amount of class time actually decreased.

TN materials were used on about half of the recommended occasions (see Table 5h). There are no differences across phases in frequency of use, but there are shifts in what kinds of materials are used.

Table 5g. Average Number of Times Activities Were Conducted Per Class¹

Lesson Activity	Module 2 (Grade 2)			Module 3 (Grade 4)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	2.6	7.0	8	3.6	3.8
Activity 1	8	4.3	6.4	8	5.1	6.6
Activity 2	8	4.8	5.8	8	4.8	5.8
Activity 3	2	0.8	0.9	2	1.0	1.4
Lunchroom Link	4	1.6	3.1	4	1.6	0.1
Home Connection	7	1.5	2.0	6	2.7	0.3
Exercise Connection	0	0.0	0.0	1	0.4	0.1
Wrap It Up	8	2.6	5.1	8	1.8	1.9
Taking It Further	8	1.1	0.9	8	1.3	0.9
Total Activities	53	19.3	31.2	53	22.2	20.8

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

Table 5h. Average Number of Times Materials Were Used Per Class

Material	Module 2 (Grade 2)			Module 3 (Grade 4)			
	Recommended/ Available	Used		Recommended/ Available	Used		
		Phase				Phase	
		I	II			I	II
Parent Information Sheets (reproducibles)	7	4.3	3.8	7	3.7	2.1	
Student Information Sheets (reproducibles)	8	3.9	5.3	7	4.7	4.6	
Student Magazine	2	1.6	1.3	6	3.0	3.9	
Video	4	1.8	1.4	5	1.8	2.5	
Total Materials	21	11.5	11.9	25	13.1	13.1	

5.5.2.3 *Implementation Methods*

Based on teacher interviews, only one of the nine fourth-grade teachers in the implementation schools reported completing all eight of the lessons in Phase I. The major reason given for not completing all of the lessons was that they took too long to complete. Two of the teachers commented that because each activity took at least 1 hour to complete (making each lesson at least 4 hours long), it would be very difficult to complete all eight lessons within the allotted 8-week timeframe. There was also some difference in opinion about whether the USDA goal was to teach all lessons. Appropriateness for students, length of time to complete, and ease of accomplishing the task were all criteria used by the teachers to select which activities to complete. In Phase II, teachers also mentioned that the lessons took a long time to complete, and it was difficult to complete them in the short time allowed. Fourth-grade teachers were able to complete more lessons than they did in the first phase because they were familiar with them.

In interviews after Phase I, most of the fourth-grade teachers indicated that they had presented the lessons as a separate curriculum. However, three of these teachers taught the lessons as part of the health education, language arts, or science curriculum.

In Phase II, two teachers were interviewed from each of the implementation grades. As before, several of the teachers reported teaching the Scholastic lessons as a separate unit, while others integrated the lessons into math, reading, social studies, and science. Often times, teachers indicated that they alternated method of presentation (separate or integrated). In this phase, they considered the following attributes when deciding which activities to use: which lessons would tie in with what they were already doing; how much time the activity would take; how much fun it would be; which were best for the students' developmental level; and which activities worked well in Phase I.

5.5.2.4 *Teacher Fidelity to Classroom Lessons*

Six teachers were evaluated on their adherence to curriculum and use of materials. All six adhered "a great deal" to the curriculum content and activities as described in the lesson plan. Also, three of the four reviewed on the use of audiovisual materials used them "a great deal" as suggested and one used them "somewhat" as suggested. In addition, three of the six used the teaching materials "somewhat" as suggested while the other three used them "a great deal" as suggested.

5.5.3 Teacher Attitudes Toward Scholastic Materials

As shown in Table 5i, in Phase I, less than one-half of the teachers expressed satisfaction with the Scholastic materials overall. Their responses to a series of more specific questions helped define the context of their dissatisfaction. Most teachers agreed that the materials were appropriate for the developmental, educational, and cultural backgrounds of their students. Approximately two-thirds felt that the content provided sufficient background, that the activities met teaching needs, and that the activities were appropriate for the classroom. Less than one-half agreed that the Scholastic materials made it easy to teach nutrition, and only 53 percent said the Scholastic materials would encourage them to teach more about good nutrition in the future. Only one-third said the Scholastic materials were better than other nutrition teaching materials they had used.

Table 5i. Teacher Attitudes Toward Scholastic Materials

	Phase	
	I	II
Percent of Teachers Who Reported That They Were Satisfied With Scholastic Materials	44	31
Percent of Teachers Who Agree or Strongly Agree That:		
The Scholastic materials were appropriate for the developmental level of the students in my class.	89	81
The Scholastic materials were appropriate for the educational levels of the students in my class.	89	76
The Scholastic materials were culturally appropriate for the students in my class.	94	90
The activities suggested in the Scholastic materials were appropriate for my classroom.	61	65
The content of the Scholastic materials did provide sufficient background for my nutrition-related teaching needs.	61	60
The classroom activities met my nutrition-related teaching needs.	67	52
Having the Scholastic materials makes it easy to teach about nutrition.	44	50
I will teach more about good nutrition in the future if I can use the Scholastic materials again.	53	43
The Scholastic materials are better than other nutrition teaching materials I have used.	33	40
N (number of teachers completing questionnaires)	(18)	(22)

In interviews, a majority of the fourth-grade teachers commented that the materials contained good ideas and they would recommend that other teachers participate. They prefaced their recommendations by saying that teachers need to be given enough lead time for planning and enough support for the activities that required food preparation.

The fourth-grade teachers agreed that the Scholastic materials engaged the students' interest, and that their own enthusiasm sparked that of the students. The lessons were deemed appropriate for fourth-graders and adaptable for other grades as well. It was mentioned that it would probably be easier to tailor the lessons for the fifth-grade rather than the third-grade.

Lessons that involved reading food labels, weighing and measuring, and art projects were most enjoyable or most able to engage student interest. One teacher commented that she liked the Lunchroom Links because they provided a positive dialogue and promoted teamwork. The lessons that were not as well received by teachers involved food tasting. Some teachers felt that the lessons required them to do a lot of grocery shopping for food the children wasted. Therefore, these activities were judged as neither efficient nor cost-effective.

Some of the teachers preferred other existing nutrition materials to the Scholastic materials. The teachers rated the California State Dairy Council materials on par with, or a little better than, the TN materials, primarily because the Dairy Council materials required less time commitment. The Dairy Council materials were also not as "complicated" and the lessons were "short and sweet" (about an hour of preparation time). One teacher had used a program entitled "Smile and Style" that dealt with dental hygiene and nutrition. She preferred the program to Team Nutrition because it had a straightforward focus and emphasized the Food Guide Pyramid.

These teachers would advise other teachers planning to implement these activities to go through all the materials beforehand; adapt the activities to their students and their own personal teaching style; and keep in mind the allotted amount of time for each activity.

The district's management team felt that the teachers did the best job they could to implement the curriculum, but the Scholastic modules emphasized "hands-on" activities that required a great deal of time and volunteer assistance to implement.

During the second site visit interview in Phase I, the interviewer and the management team spent a considerable amount of time discussing the district's philosophy on integrating new curriculum into the schools. Vacaville strongly supports a cooperative, consensus-building approach. Typically, teachers are actively involved in discussions regarding new curricula.

This method ensures positive participation and "buy-in." The timeline for Team Nutrition did not allow a great deal of time for consensus-building and, as a result, the program was not received as positively in either school as it might have been.

In Phase I, the TNC also suggested that teachers also lacked confidence in their knowledge and skill to teach nutrition. In fact, some teachers commented on the need for the teachers' guide to have more nutrition background information and indicated a handy reference with more depth would be helpful. The TNC also felt more guidance on how to integrate nutrition education with other subjects was needed.

In Phase I, the TNC also explained that there were several reasons why teachers were generally positive about the appropriateness of the Scholastic materials for student background, but not about the materials and activities in general. One was the difficulty of obtaining, preparing, and presenting food in the classroom. Concerns of sanitation and safety, job duties and responsibilities, equipment use and availability, and issues of clean up were commonly expressed. Procurement of food for lessons was difficult and initially not well coordinated. This lead to confusion and deflated some of the excitement and positive attitudes. Although some teachers considered these hands-on activities inefficient, most of the teachers said the food tasting greatly enhanced the lesson. The students not only enjoyed them but learned the most from them and retained the information better.

Finally, the district was implementing a new math curriculum during Phase I. This required a great deal of teacher time. Combined with all the other factors discussed here, teacher dissatisfaction with some aspects of TN are not surprising.

As reflected in Table 5i, teachers' overall attitudes toward the materials in Phase II were somewhat less positive as compared to Phase I. Teacher satisfaction with the materials decreased, with only 41 percent agreeing or strongly agreeing that they were satisfied. For six of the other nine more specific characteristics, satisfaction also declined. However, satisfaction remained comparatively higher with the educational, developmental, and cultural appropriateness of materials for students. Sixty-five percent of teachers felt that the activities were appropriate for their classrooms, while only about half agreed that the activities met their nutrition-related teaching needs. Teachers were even less positive about the materials. Half felt that having the materials made it easier to teach about nutrition. Less than half indicated that the Scholastic materials are better than other nutrition materials they have used and that they would use the Scholastic materials in the future.

In Phase II, we interviewed several teachers from each implementation grade. Although more than three-quarters said that the materials were developmentally and educationally appropriate for their students, several teachers mentioned that the lessons were not age-appropriate for their students: some were too advanced, while others were too juvenile. Several teachers indicated that the teachers' manual should be rewritten because it is not well organized, and in some cases it is not realistic. For example, to grow plants, the manual suggested using glass jars which can be very dangerous in a classroom. Most of the teachers suggested that if they were teaching this again, they would pick and choose from the lessons rather than teach the whole module.

Table 5i1. Teachers Attitudes Toward Time to Teach Scholastic Modules

Percent of Teachers Who Agree or Strongly Agree That:	Phase	
	I	II
The time required to prepare to teach the Scholastic lessons was reasonable.	33	43
The time required to teach the Scholastic lessons was reasonable.	39	48

In Phase I, only one-third of the teachers thought that the time for preparing (33%) and teaching (39%) the Scholastic lessons was reasonable (see Table 5i1). They commented that the main drawback was the preparation time involved, including the time it took to gather all the necessary materials. As mentioned previously, food tastings required teachers to go grocery shopping which was time consuming. During this phase, the TNC assisted in organizing the gathering of materials, but it was unclear whether the assistance would be available beyond the pilot. One teacher said that the materials were new to them and familiarizing themselves with the lessons took extra time.

In Phase II, a majority of teachers were still dissatisfied with the time it took to complete each lesson. They also felt they were not given enough time to complete all the lessons in the modules. In Phase II, there was a 10 percent increase in the number of teachers who felt that preparation and teaching times were reasonable.

5.5.4 *Changes in Teacher Nutrition Behaviors*

At the end of Phase I, teachers generally reported more awareness of the implications of using food as an incentive or reward in the classroom. Some said, however, they were not sure they would change those habits. They think about their actions, but said it was easier and cheaper to reward with candy than with more nutritious foods. Also, some teachers felt that students respond more to candy.

Among the six teachers interviewed in Phase II, responses about changes in behavior were mixed. Only two indicated that they seldom or never use food as a reward. One teacher said she is more selective about the food she uses and that she looks more at the fat content of items. Another teacher pointed out that food is used as a reward on a school-wide basis; for example, a restaurant certificate is given to the student of the week and certificates are given for local pizza and ice cream shops as rewards. Two teachers said that they still use candy as a reward. In general, teachers make a more conscious decision about giving food rewards. Although training discouraged it, they sometimes continued to use food as rewards.

In Phase I, the teachers also were more aware of themselves as models of healthy food choices and tried to think about their actions more often. Some teachers indicated that they read food labels more conscientiously and that they were more aware of the different amounts of fat in products such as milk. In the second phase, four of the six teachers interviewed indicated that they were pretty healthy already so the TN program did not change their behavior. Two of the teachers indicated that the program made them more aware of nutrition; for example, they now pay more attention to labels.

5.5.5 *Involvement of Cafeteria Staff*

When asked to describe their involvement in the TN project in Phase I, school food service staff typically responded that they were "a little bit" or "somewhat involved." The nature of their involvement encompassed providing tours of the cafeteria, preparing foods for classroom activities, and monitoring the newly introduced "Garden Choices" bar, which is a salad bar available to the students.

Food service staff at both implementation schools commented that the additional workload generated by the addition of the Garden Choices bar and food tastings for classroom activities was challenging. However, they felt that the combination of responsive staff in the district food

service office and the team approach to task completion contributed significantly to the successful implementation of the activities.

In Phase II, most of the cafeteria staff interviewed indicated that they were "very involved" in the TN program. Involvement ranged from preparing food for tastings and for the lunch program, to participating in an assembly where students could ask the cafeteria manager questions about the salad bars, where food comes from, or how much food to take from the Garden Choices bar. Some staff felt that the lessons were most successful when students were allowed to taste the foods they were discussing.

Attitudes of food service staff remained mixed. Sometimes being involved in TN activities interfered with their every day duties; the staff would have to stop what they were doing to cook something special. Some staff indicated that they were not given enough advance notice to prepare for events: more organization and earlier notification would have helped things run more smoothly. One cafeteria manager noted the benefits to students when she said of the TN program, "[It is] successful for students. They must feel better and perform better if they are eating better."

5.6 IMPLEMENTATION OF SCHOOL-BASED CORE ACTIVITIES

Phase I

The TNC reported that the activities conducted differed from those described in their implementation plan because the teachers took the initiative (provided by the preliminary nature of the implementation plan) to creatively incorporate nutrition activities into other school activities. Reiterating a theme discussed previously, the TNC felt that it was important to allow the schools to adjust the activities to fit the individual school setting. Forcing schools to adhere to the implementation plan would "deflate enthusiasm and decrease creativity." To better understand the diversity of activities conducted in each school, a timeline of the activities is provided in Figure 5a.

5.6.1 Fairmont Elementary

Where feasible, Fairmont connected its activities to an ongoing reading program within the school. The school had an enthusiastic volunteer parent network and used a steering

committee to plan its TN activities. The activities included:

- **Team Nutrition on the Trail.** Students participated in a reading in the park at a neighborhood park dedication. Afterwards, students prepared a healthy trail mix snack. Approximately 600 students and 25 parents participated in this event. In addition, there were a few administrators and food service workers present. It is unknown how many community members attended.
- **Team Nutrition Ice Cream Social.** Parents were invited to the school when students discussed and sampled healthy topping alternatives.
- **Cooking Up a Storm With Reading.** For this activity, the principal organized three separate events to encourage healthy food choices. The first was entitled "Health Dips" and provided the students with various healthy snacks that they would then rate. The second was entitled "Health Fruits" and, with the help of a parent chef, the students made waffle cones with fresh fruit fillings and whipped cream topping. This event attracted approximately 600 students, 30 teachers, and 10 parents. Four food service workers and two administrators also participated. For the third, students pledged to read for a certain amount of minutes during the school year. If they met their quota, the principal and vice principal vowed to eat anything the students asked. As promised, a local chef sautéed squid and snails for the principal and vice principal. The chef also discussed preparation techniques.
- **Chef Events.** Every Friday, the principal or a parent would act as a guest chef and provide a demonstration of various healthy meal choices for the students. Students from kindergarten through eighth-grade participated in the chef events.
- **Torch Passing.** In connection with the district-wide community event (described later in the chapter), an Olympic torch was passed between students of Fairmont Elementary to another local elementary school. The event promoted the importance of physical fitness and increased awareness of Team Nutrition and its mission and goals.

5.6.2 Callison Elementary

The activities in Callison were planned primarily by the TNC with the assistance of the vice principal and included:

- **Pizza Tasting.** A community partner sponsored a broccoli pizza tasting for fourth-graders. A chef described the ingredients designed to lower fat and increase fiber. Five fourth-grade teachers, 140 fourth-graders, four food service workers, and five administrators participated in the pizza tasting.

Figure 5a: TN Core Activities Vacaville, California—Phase I

Legend	
S	School Event
D	District-Wide Event
M	Media Event
F	Food Service Training

S	Garden Food Bar Assembly Fairmont Mar 29, 1996	S	Family Open House Callison April 1996	D,M	Olympic Celebration District-Wide May 30, 1996
S	Pizza Tasting Callison Mar 28, 1996	S	Cooking Up a Storm with Reading - Health Fruits Fairmont Apr 19, 1996	S	Lunch w/Grandparents Callison May 24, 1996
S	Cooking Up a Storm with Reading - Health Dips Fairmont Mar 15, 1996	F	Get Ready, Get Set, Go for Change District-Wide Apr 17, 1996	S,M	Cooking Up a Storm with Reading - Chef Activity Fairmont May 23, 1996
M	School Newsletter Implementation Schools Mar 8, 1996	M	School Newsletter Implementation Schools Apr 4, 1996	S,M	Team Nutrition Lunch and Olympic Torch Passing Implementation Schools May 22, 1996
F	"Nutrition 101" Course Select Staff Began Feb 26, 1996	F	Staff Development Day District-Wide Apr 3, 1996	S	Ice Cream Social w/Parents Fairmont May 14, 1996
F	Field Trip to Manteca School District District-Wide Feb 23, 1996	S	Garden Food Bar Assembly Callison Apr 26, 1996	M	School Newsletter Implementation Schools May 10, 1996
F	Manager Training District-Wide Feb 13, 1996	F	"Nutrition 101" Course (cont.) Select Staff Apr 1996	S	Team Nutrition on the Trail Fairmont May 7, 1996
				S	Family Open House Fairmont May 1, 1996
				S	Grains and Greens Callison May 1, 1996
				F	"Nutrition 101" Course (cont.) Select Staff May 1996

February/March

April

May/June

- **Torch Passing.** Similar to the event held at Fairmont, an Olympic torch was also passed between students of Callison Elementary to another local elementary school. The torch passing involved 125 students, five teachers, and a few administrators and food service workers. To coincide with the Olympic theme, a Team Nutrition Training Meal with healthy food choices was given to all the students and staff who participated in the day's activities.
- **Chef Event.** A local food sales organization sponsored a chef to come to the school for a "Grains and Greens" event. The chef, with the assistance of the fourth-grade class, prepared three grain dishes that the students sampled and rated.
- **Grandparents Day.** Grandparents attended class and an assembly. At the assembly they were invited to stay for lunch and experience the new Garden Choices bar. This event involved 700 students from kindergarten through eighth-grade, teachers, food service workers, and administrators. Approximately 300 parents and grandparents attended with more than 150 grandparents staying for lunch. Many grandparents complimented the cafeteria staff and the office on the wonderful lunch program.

5.6.3 Garden Bar Assembly

The implementation schools introduced the Garden Choices Bar to the students in the form of an assembly. Students in first- through second-grade visited the cafeteria to see the new Garden Choices Bar stand. Rules and procedures were discussed with each grade level and then the students practiced walking through the lunch line and the new Garden Choices Bar.

5.6.4 Family Open House

To coincide with the opening of their Garden Choices Bar, each school hosted an open house. The event was held to make contact with the students' parents. A brief discussion of the TN modules was held, giving parents the opportunity to ask questions about the project. Various TN literature and materials were provided, along with recipes and photos. The event was intended to inform parents about Team Nutrition and to emphasize the importance of healthy food choices.

5.6.5 Newsletters

The TNC sent out three newsletters during Phase I to the parents of students in the implementation schools. Articles were written about Team Nutrition by the TNC and by the classes participating in Team Nutrition.

Phase II

A timeline of activities in Phase II is provided in Figure 5b. In this phase, the original plan for activities had to be scaled back because of a delay in implementation. A number of factors contributed to this delay, including: difficulties getting parent consent forms signed for student participation in the evaluation; business associated with starting a new school year; teacher training had to be scheduled and completed; and teacher and student surveys had to be completed.

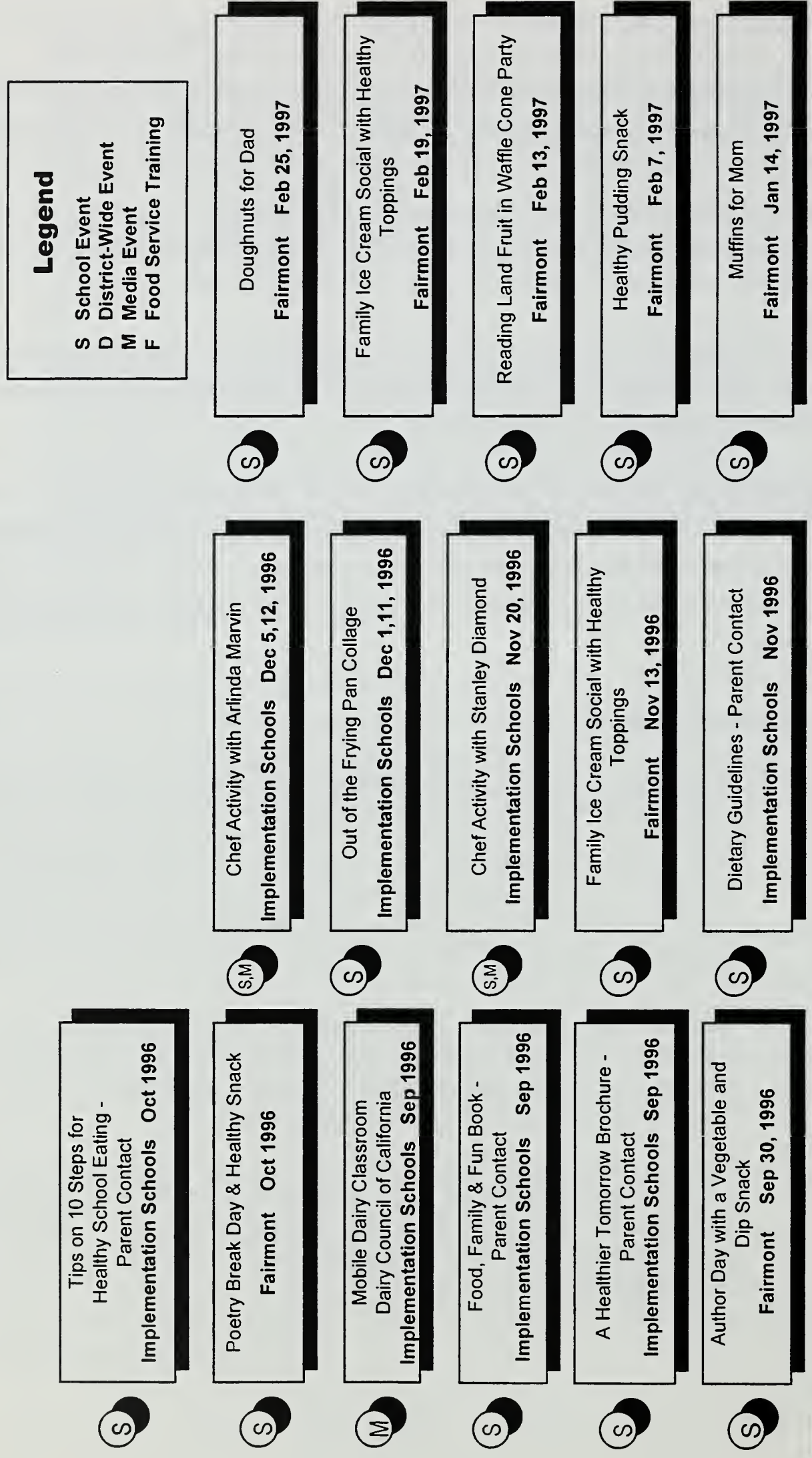
Based on experience from Phase I, the TNC knew how much time and effort it took to organize new events. Consequently, she integrated TN into some existing activities and modeled other events after those conducted in the first phase.

The vice principal at Callison, who had been handling TN activities, moved on to a district level position. In the absence of a school TN contact, the TNC pitched in to help coordinate at Callison, but fewer activities were conducted in comparison to Fairmont. Fairmont's principal was very involved in TN and scheduled more activities, some of which carried over into the spring semester.

5.6.6 Fairmont Elementary

- **Family Ice Cream Social with Healthy Toppings.** This activity was conducted twice at Fairmont. Fliers/announcements were sent out to parents and the community for this family night at the school. The objective of this activity was to use healthy toppings such as raisins, granola, peanuts, and fresh fruit on the ice cream. Ice cream was donated by the school's community partners for both events and served at family night. There was an assembly presentation as well as taste-testing. Approximately 140 parents, 140 students and 60 siblings attended this activity.
- **Muffins for Mom.** Fairmont sent letters to the parents to invite them to this annual school event to illustrate a simple way of improving food choices. Muffins, juice, and fruit were served to the students and their parents. Over 150 parents and almost 200 students attended this activity.
- **Healthy Pudding Cup Snack.** Fairmont sent out fliers/announcements to the parents and the community inviting them to attend this event. Pudding cups were donated by Imagine Foods and served at this activity. The activity included students, teachers, food service workers, and administrators. A few parents attended.

Figure 5b: TN Core Activities Vacaville, California—Phase II



- **Doughnuts for Dad with Healthy Fruit and Juice.** Parents were invited for this annual breakfast at Fairmont. Over 150 parents and more than 150 students were served doughnuts, fruit and juice at this activity to demonstrate how to introduce more balance even in small meals.
- **Reading and Healthy Snack Activities.** As in Phase I, some activities for Team Nutrition were conducted in conjunction with the school-wide reading program. The first was "Author Day with a Vegetable and Dip Snack" which was announced through fliers/announcements aimed at increasing awareness of the activity. There was an assembly presentation and taste-testing of nutritious vegetables and snacks. A variety of books were read including, "Thunder Cake," "School Lunch Rebellion," "Baking Bread," "Junk Food, Fast Food, Health Food," and "Good For Me." This activity was attended by a few parents and the general community, but mostly by the students, teachers, and administrators. The second of these activities was the "Fruit in Waffle Cone Party" where a chef prepared waffle cones and served them with various fruit toppings. This activity included mostly students and teachers, although a few parents did attend. Another reading activity was the "Poetry Break Day with a Healthy Snack." For this activity, trail mix was provided to the students while they took poetry breaks. As with the other two activities, a few parents participated, but mostly the students were involved.

5.6.7 *Callison Elementary*

- **Mobile Dairy Classroom.** Although this was not specifically a TN activity, it fit in with the program. A farmer brought a cow to the school and talked about every aspect of processing milk. The farmer talked about how things the cow eats fit into the Food Guide Pyramid, what products you can get from a cow, and how they fit into the Food Guide Pyramid. The TNC felt that although the presentation was not directly related to Team Nutrition, the students learned a great deal. Next year, the TNC might link the presentation more to the cafeteria, having tastings of things from the dairy group and comparing low-fat and regular products.

5.6.8 *Parent Contacts*

The TNC used the school lunch menu with attached TN materials as a vehicle to reach parents. The TNC felt that this was an effective and efficient way to reach parents because they read the menu more often than anything else that comes home from school. There was some effort associated with manual stapling required because the copier did not staple. The materials attached to menus included:

- USDA Team Nutrition brochure, A Healthier Tomorrow;
- Food, Family, and Fun book;

- Tip sheet for parents on 10 steps to healthy eating at school; and
- Dietary Guidelines.

5.6.9 Collage Play

A local theater company put on a play called "Out of the Frying Pan" at both schools. The main message of the play was to eat a variety of foods. At one school, the play was not well received because the teachers at that school could not see the connection between the play and Team Nutrition. The play had to be cut short due to scheduling conflicts, so the message suffered. Before going to the second school, the play was revised to make a clearer connection to Team Nutrition. The TNC felt that next time she would want to see the play before scheduling it to ensure that it was appropriate. The district paid \$200.00 for each of the performances. While the TNC does not think they will have the funds to support this kind of event next year, she will encourage students and teachers to put on their own play.

5.6.10 Chef Activities

One chef event was sponsored by Davis-Lay Produce, a district community partner. They supplied Chef Stanley Dimond and all of the materials needed for the activity. The key nutrition message was to increase the consumption of fruits and vegetables. Chef Dimond talked to the students about how to add different fruits and vegetables to their diets and demonstrated how to make decorations out of fruits and vegetables.

Scheduling and coordinating for this event was labor intensive. Although the community partner provided the resources, planning took a lot of the TNC's time. The TNC suggested that it would be better to have more students participate in the demonstration, and that she might do this kind of demonstration in the classroom next year.

For the second chef event, Northern California School Food, another community partner, came to school to talk about how to make a healthy pizza. Chef Arlinda Marvin talked about nutrition as it relates to pizza, for example, describing the nutrients in cheese. Although it was a good plan, the group of students was too big and keeping everyone's attention was difficult. The TNC suggested that next year they might try the activity with smaller groups so that more students could have hands-on experience.

5.7 FOOD SERVICE ACTIVITIES AND CHANGES

Descriptions of school lunch services, food service training, and observations of food preparation include both implementation and comparison schools.

5.7.1 *Description of School Lunch Services*

The schools in Vacaville have production kitchens where full meals are prepared. Students are offered one main entree and the Garden Choices bar. They are encouraged to take the main entree as well as any fruit or vegetable from the bar. Alternatively, some children chose to make the salad bar their entree. Even if they chose the salad bar, they were still able to have dessert. The Garden Choices bar includes salad mix, kidney and garbanzo beans, baby carrots, mixed fruit, apples, bananas, and oranges. The students can also purchase cookies, beef jerky, popcorn, fruit roll-ups, and fruit juices à la carte.

5.7.2 *Plans for Meeting Dietary Guidelines*

The opening of the Garden Choices bar in each of the implementation schools was the most frequently mentioned and highly lauded activity conducted in this district. At first, the cafeteria managers were apprehensive about the change and the additional work required. However, once the implementation was complete, cafeteria staff embraced the change. Most importantly, according to staff, the children "love it." Teachers in both implementation schools said their class participation in school lunch had increased dramatically.

Students in each of the schools had an assembly for the opening of the Garden Choices bar that included decorating the cafeteria with TN materials and balloons and discussing healthy food choices. A number of parents sought out the TNC to provide feedback about the Garden Choices bar. They were very much in favor of it and complimented the new lunch program.

Other food preparation changes included not frying foods, decreasing the use of butter and mayonnaise, and using low-fat salad dressing. The cafeteria manager at one school also tried to change the Garden Choices bar a little each day to give the students more variety.

From the start, the TNC felt that one of the principal benefits of Team Nutrition would be the focus on meeting the Dietary Guidelines. While the TNC felt that their current menus were close to meeting the Dietary Guidelines, involvement in the program would provide the stimulus for making additional menu changes and providing food service staff in-service training on

meeting the Dietary Guidelines. Food service activities and training conducted throughout the initial implementation period were consistent with the TNC's initial impressions.

During Phase II, the district continued its efforts to meet the Dietary Guidelines by continuing to use the Garden Choices bars that provided students with daily choices of fresh and canned vegetables and fruits. Other efforts included washing and draining meat after cooking to remove excess fat and using turkey instead of beef in some dishes to reduce fat content. Food service staff indicated that several students chose to skip the entree and eat only from the Garden Choices bar instead.

An effort was made to conduct an analysis of school lunch menus. However, this presented a number of measurement challenges which are addressed in Appendix D.

5.7.3 Food Service Staff Training

A major focus of implementation activities during Phase I was on food service staff training. Several major training sessions were conducted. An early training session covered an explanation of the Scholastic modules and the role of cafeteria staff in the project. Other activities included a "Nutrition 101" course that the TNC coordinated with a local community college in which eight food service employees from across the district were enrolled. There was a staff development day for all managers in the district to review their role in the TN Olympic celebration. In addition, a teleconference entitled "Get Ready, Get Set, Go for Change" covering menu changes and USDA Dietary Guidelines was scheduled for Fairmont employees. Finally, a trip to the CCA provided training for implementation school cafeteria managers. The hours devoted to food service training far exceeded the 10 hours that the USDA required of pilot communities.

In the CCA training, managers discussed methods for reducing fat, increasing fiber without decreasing calories, blanching fresh vegetables, and changing recipes to meet Dietary Guidelines. In addition, cafeteria managers in the implementation schools took a "field trip" to an elementary school in a neighboring school district to observe the operation of a Garden Choices bar. The TNC also participated in several individual training sessions sponsored by the USDA and the California Shaping Health As Partners in Education (SHAPE) program.

Food service staff were often unfamiliar with the TN training they had received. The TNC suggested that the reason they did not recall training is that it was not usually referred to as training. For example, there were numerous managers' meetings which included training.

Since staff were busy doing everything they needed to for Team Nutrition, there was no additional training for food services staff in Phase II. They decided to wait until Spring 1997 to conduct more formal training.

5.7.4 Support to Facilitate Food Service Staff-Teacher Relationship

The TNC stressed the importance of training for food service staff to empower them and make them feel confident and competent as nutrition professionals. TN calls for cafeteria staff to work with teachers and participate in classroom activities. By developing individual skills and improving the image of the food service staff through training, the TNC hoped to build a stronger relationship between teachers and food service staff. This relationship is important in the coordination of TN activities. The TNC also suggested that the Food Service Department should sponsor an "in-service" training for teachers and cafeteria staff which includes lessons on how to link the cafeteria with the classroom using various nutrition education materials.

5.7.5 Observations of Food Preparation

Trained observers watched the preparation of a menu on one of the days before and after TN implementation in both Phase I and Phase II. Observations took place in kitchens at both implementation and comparison schools. The preparation of taco boats and produce for the Garden Choices bar were observed during both phases.

Food service workers relied on memory for food preparation and in most cases did not display recipes in either Phase I or II. The food service staff used measuring instruments when needed. Many items were pre-measured for the staff such as seasoning mixes that they added to the ground turkey for the tacos. Staff also used appropriate sized scoops or ladles for individual servings.

Whenever possible, food service staff used low-fat practices to prepare the day's menu. They substituted ground turkey for ground beef and drained fat from meat for tacos. Low-fat pan sprays were used to coat pans to prevent sticking, and other low-fat products were used when possible. No foods were fried.

None of the schools had the Garden Choices bar at baseline in Phase I, but they were in place by posttest. The produce on the Garden Choices bar was fresh, colorful, attractive, and well presented. The attractiveness of the Garden Choices bar held for Phase II. To encourage

students to eat more of the vegetables, the food service staff offered dips to go with them. For example, peanut butter dip was offered for the celery.

In all of the schools, the food service managers casually observed the food service workers while they prepared the food. Overall, the food service staff did not consult each other or the manager about recipes or ingredients. When necessary, staff asked the manager or other staff for input regarding recipes, ingredients, or correct scoops for serving.

In general, there was not a lot of discussion among the food service workers regarding the taste, quality, or healthfulness of food. However, one food service worker during Phase I said about her school, "We're very health conscious here."

More food service workers talked about students' reactions to food. The kitchen staff at one school told the observer that they were happy about the students' acceptance of the Garden Choices bar and felt the students were making better food selections. The food service manager at another school mentioned that students were eating the vegetables because dips were offered with them. In general, staff commented that students liked the Garden Choices bar.

During Phase II, comments on student preferences continued. A food service worker in Phase II said, "They like pizza and cheese, like all kids." At the same school, the staff explained that they try to get feedback from the students to learn their likes and dislikes. At another school, the staff discussed what the students said they liked to eat, compared to what they actually ate.

According to observers, there were many nutrition-related posters displayed throughout the kitchen and cafeteria area in Phase II. There were posters about eating five fruits and vegetables a day; consuming more milk, cereals and other grains; the Garden Choices bar; the Dietary Guidelines; and other topics. There was no mention by observers of any posters during Phase I.

Overall, the observers noted that the food service staff at each school had close working relationships, an atmosphere of teamwork, concern for what they do, good spirits, and a positive and cheerful attitude.

5.8 COMMUNITY ACTIVITIES

In Phase I, this district sponsored an Olympic celebration activity to coincide with the excitement generated by international Olympic events. For this activity, a TN training meal was

provided to students in all of the schools participating in the event, and entries for a TN Time Capsule were displayed.

Although the students loved the district-wide event, the teachers did not feel this reinforced the lessons' messages. They felt there was little connection made between the event and Team Nutrition.

No district-wide events were conducted in Phase II. However, parents were invited and participated in a number of events at Fairmont school during Phase II.

5.9 COMMUNITY PARTNERS

Throughout Phase I, the TNC and deputy superintendent for instructional services worked at recruiting community partners for Team Nutrition. The TNC remarked that establishing community partners was one of the more challenging aspects of the program; however, she did receive a great deal of support from two of the school district's food vendors. One of the vendors was responsible for conducting the Healthy Pizza Tasting and Grains and Greens events. The other was instrumental in installing the Garden Choices bars and providing food gifts for the district-wide event.

The partners were very enthusiastic about the project. In interviews conducted during the second site visit, each commented that they were involved with other nutrition education programs within the State and the district. One of the partners worked with the 5-A-Day program at the State level. This program emphasizes increasing consumption of fruits and vegetables. Each considered promotional activities such as food tasting a normal business activity. Though they were unable to conduct tasting on a district-wide scale, given the time and expense required, they were very willing to participate in activities when asked.

Community partners were also very involved in Phase II. Davis Lay Produce supplied a chef to do demonstrations of making garnishes out of fruits and vegetables, and all of the supplies. The students enjoyed the demonstration; however, some wanted to taste the garnishes. The representative from Davis Lay suggested that next time they bring things for the students to taste as well. She also said that organizing programs like this can be very time consuming, but they were happy to do it because it is "good to get involved with the community and give to the future of our country." She also said that Team Nutrition is in line with the direction and mission of her company. In addition, she indicated that the TNC was aware that the company needed to benefit from this relationship as well. She suggested that many other organizations would

probably be interested in becoming partners with Team Nutrition, and suggested that schools contact Commissions (such as the Potato Commission) to provide support. In addition, she suggested contacting supermarkets and agricultural boards to enlist their participation.

5.10 MEDIA EVENTS AND MEDIA COVERAGE

The TNC and the deputy superintendent attempted to link media to each school-wide and community-wide event they conducted in Phase I. Although they felt that communicating with the media was a challenge, they managed to attract the attention of local newspapers. The Olympic celebrations were covered as well as one of the reading activities at Fairmont. The deputy superintendent found that electronically communicating (through e-mail) with the media was the most effective and timely method of reaching media contacts and maintaining steady communication and interest.

Additionally, in both of the implementation schools and in both phases, Team Nutrition was featured three times in their weekly newsletter to parents. Students had the opportunity to describe what they were learning about nutrition, and teachers wrote about the lessons and class activities.

USDA disseminated PSAs using the characters from "The Lion King" to talk about good nutrition in another effort to get the TN message out through the media. This was apparently successful in reaching the students; 89 percent of the fourth-grade students surveyed recalled seeing the Disney characters Pumba and Timon talk about good nutrition on television (approximately 63% recalled seeing the messages many times and 25% at least once).

The TNC reported that there was no television or radio coverage of Team Nutrition in Phase II, there were several newspaper articles covering activities, including the chef events, the Garden Choices bars, and the Mobile Dairy Classroom event. As noted below, a number of parents indicated that they heard about TN on television in Phase II. The TNC had no explanation for this, but indicated that school board meetings are televised and perhaps TN was mentioned there.

5.11 PARENT INVOLVEMENT

5.11.1 Parent Awareness of Team Nutrition

Parents of the TN students were potentially involved through the media, through school-wide and community-wide activities, and through take-home materials from the Scholastic modules. The telephone interviews with fourth-grade parents assessed their awareness and source of information.

As shown in Table 5j, in Phase I, 43 percent of the fourth-graders' parents had heard about Team Nutrition through some form of media, most frequently the newspaper. Almost all (92%) were aware of some TN event. However, only 18 percent had actually participated in a TN event.

Table 5j. Parent Awareness of Team Nutrition

Percent of Fourth-grade Parents Reporting They:	Phase	
	I	II
Heard of Team Nutrition through any media (Net).	43	47
Heard of Team Nutrition on the television.	13	31
Heard of Team Nutrition on the radio.	10	4
Heard of Team Nutrition in the newspaper.	36	34
Heard of any TN event (Net).	92	90
Were aware of a TN community event.	37	51
Were aware of a TN classroom event.	85	90
Were aware of a TN school-wide event (outside of classroom).	73	76
Participated in a TN activity.	18	22
N (number of parents completing questionnaires).	(143)	(121)

In Phase II, there was only a small increase in the percentage of parents who reported hearing about TN through any media source, but a substantial increase in the number who had heard of Team Nutrition on television. There were also more parents who were aware of a TN community event (51%) in Phase II as compared to Phase I (37%). As mentioned earlier, the TNC reported that there was no television or radio coverage of Team Nutrition in Phase II. Parents may have been referring to coverage in Phase I, or perhaps TN was mentioned in the

televised school board meetings. Other than the above mentioned increases, parent awareness of Team Nutrition and participation in activities was approximately the same in Phase II as in Phase I.

The TNC observed that activities involving demonstrations and tastings achieved the greatest parent participation. Handouts that children brought home to their parents also seemed to get their attention. In addition, the lunch menu involved and informed parents. This was evident from parent phone calls and an increase in lunch participation when Team Nutrition was promoted and menu items were linked with the project.

To increase parent participation in Team Nutrition, the TNC suggested the following:

- Create a TN mascot that parents, students, and teachers could identify with Team Nutrition that participates in nutrition activities around the district and visits schools to present nutrition lessons. The mascot would also help students and staff to identify activities as TN events and to make the connection with the cafeteria.
- Start a district parent nutrition advisory council to serve as advocates for the district Child Nutrition Department.
- Use the school lunch menu as a marketing tool and a nutrition education tool.
- Develop a pamphlet to distribute to parents to inform them about services available from the Child Nutrition Department and the district's commitment and involvement in the USDA TN project.
- Fund a Nutrition Education and Training position for the Child Nutrition Department. This person could act as a conduit between TN, families, and the community and assist with developing TN district-wide nutrition projects that promote a link with nutrition education. In addition, this person could conduct and promote menu nutrient analysis, train cafeteria staff in nutrition, and train teachers to integrate TN modules into curriculum.

5.11.2 Nutrition Education Activities in the Home

Parent participation in home nutrition activities increased during the second phase (see Table 5k). In Phase II, 86 percent of parents conducted some home activity compared to 73 percent in Phase I. About one-half of parents in Phase II participated in family nutrition projects, helped with other nutrition homework, or used family reading materials.

Table 5k. Percent of Fourth-grade Parents Reporting Participation in Nutrition Activities in the Home

Percent Reporting Participation in Home Activities	Phase	
	I	II
Conducted any home activities	73	50
Family Nutrition Projects	38	52
Other Nutrition Homework	47	50
Family Reading Materials	42	55
Other Activities	16	36
N (number of parents completing questionnaires)	(143)	(121)

As shown in Table 5l, during both phases almost all parents agreed that the information sheets (reproducibles) were interesting to their children, understandable, and gave parents other ideas for practicing good nutrition. These information sheets included activities for parents to work on with their children. They focused on different aspects of nutrition and were related to what the children were learning in school. Some examples of information sheets are "Gardening Together," "Understanding the New Nutrition Facts Label," and "Building Healthy Meals and Snacks." Many liked the reproducibles and felt that their children had fun doing them. Less than two-thirds, however, indicated that there was enough time to complete the reproducibles.

Table 5l. Parent Reaction to Take Home Team Nutrition Materials (Reproducibles)

Percent of Parents Agreeing or Agreeing Strongly That:	Phase	
	I	II
Parent information were interesting to child.	90	92
There was enough time to complete parent information sheet activities.	61	90
The parent information sheets were important to the child.	77	80
The child had fun doing parent information sheets.	84	80
The parent was able to understand information sheets.	97	98
The sheets gave the parent other ideas to practice good nutrition.	90	93
Percent of parents who liked all or most of the parent information sheets.	81	80
N (number of parents completing questionnaires and using parent information sheets).	(100)	(87)

Table 5m, describes receipt, use and reaction to two other TN materials, the "Take Out" newsletter and "Foodworks" magazine. In Phase II, about one-quarter of parents reported receiving the newsletter, an increase over Phase I. Slightly more parents reported that their children had received "Foodworks" in Phase II.

Among those parents who saw the materials, many more reported spending time using "Take Out" or "Foodworks" with their child in Phase II than in Phase I.

Table 5m. Parent Opinions of "Take Out" and "Foodworks"

	Phase	
	I	II
Percent receiving a copy of "Take Out," TN newsletter for parents.	12	25
Percent whose child received "Foodworks," TN children's magazine.	23	26
N (number of parents completing questionnaires).	(143)	(121)
Percent spending time with child using "Take Out," or "Foodworks."	12	57
N (number of parents completing questionnaires and receiving a copy of "Take Out" and/or "Foodworks").	(40)	(44)
Percent of Parents Agreeing or Agreeing Strongly That:		
"Take Out" provided useful information.	100	100
The parent could understand information in "Take Out."	100	100
N (number of parents completing questionnaires and receiving "Take Out").	(16)	(25)

5.12 LESSONS LEARNED IN VACAVILLE

- **Recognize the importance of understanding and responding to the "culture" of the schools and community.** The need for autonomous decision-making on the part of the schools is an important element to consider when examining teacher responses and satisfaction with the TN program. It is believed that the teachers' satisfaction with the project would have been greater had they felt more involved in all phases of the program and been given more autonomy in implementing the Scholastic curricula and associated activities. The tight timeframe imposed by the project made it difficult to involve school teachers and staff in the initial planning, but that should only be a single occurrence.

- **Develop more direct communication with teachers.** In this community, communication generally flowed from the district level to principals and then to teachers. The absence of more direct conversation between project coordinators and teachers appears to have contributed to some misunderstandings. For example, teachers at one school came to expect a level of support from the district that was not intended or available.
- **Implement incrementally.** As discussed earlier, Team Nutrition consists of interrelated initiatives—multifaceted nutrition education and training and technical assistance. Based on staff and resource availability, districts may need to implement the program incrementally. During the first phase of implementation, Vacaville focused on making food service changes and training food service staff while other pilot communities focused on the nutrition education component. Other districts may find it useful to examine resource availability against their goals and objectives for nutrition education and food service changes to determine where they want to focus their initial efforts.

5.13 NEXT STEPS

The TNC felt that there would be some challenges to the long term success of Team Nutrition. First, the Food Service Program must be perceived as an integral, viable component of the education system. In addition, adequate funding is needed to ensure that staff time is applied to more nutrition education related activities. Finally, all stakeholders must have access to training that promotes and supports nutrition education in which the school meals programs are linked to the classroom.

The TNC indicated that schools changed the way Team Nutrition was implemented in order to alleviate the time crunch for teachers and cafeteria staff in the following ways:

- Spread lessons out over the school year.
- Spread core activities out over the school year.
- Complete fewer lessons per module.
- Complete fewer activities per module.
- Integrate nutrition with other lessons more often.

Team Nutrition operated in both the pilot implementation and comparison schools during the 1997-98 school year. In addition, several schools received grants to support nutrition education activities.

**CHAPTER 6: ADDITIONAL TEAM NUTRITION IMPLEMENTATION
DISTRICTS (*LAWRENCE, PASSAIC, CLEVELAND*)**

6.1 SETTING THE STAGE: ADDITIONAL TEAM NUTRITION IMPLEMENTATION SITES

The pilot implementation of the Team Nutrition (TN) project also included the public school districts of *Lawrence, MA*; *Passaic, NJ*; and *Cleveland, OH*. These sites were expected to implement the TN project fully, but due to budget constraints were not included in the intensive process evaluation. However, a variety of data were collected for the process evaluation. As described in Chapter 1, the data included:

- Teacher activity logs.
- Core activity logs.
- Teacher pre- and posttest questionnaires.
- Regular telephone calls with the TNCs.
- A one-on-one telephone interview with the TNC (identical to the second site visit interview conducted in the other sites).
- Quarterly progress reports.
- Site implementation plans.

Thus, the information contained in this chapter is not as comprehensive as that found in the case studies for the other four communities; nonetheless, it draws on several data sources and provides a general picture of the implementation in these three communities.

All three communities are located in industrial areas. As shown in Table 6a, each school had a high percentage of minority students, and a large portion of the elementary school population received free or reduced-priced meals. The largest minority population in *Lawrence* and *Passaic* is Hispanic; in *Cleveland*, the only minority population is African American. Information in this table was drawn from applications submitted to the USDA by school districts interested in becoming pilot communities and is useful to understanding the environment into which Team Nutrition was introduced.

The sites differed by the extent of nutrition education being taught in the schools prior to implementing Team Nutrition. The schools in *Lawrence* taught a nutrition education component in their health curriculum (the Great Body Shop curriculum) for grades K-5, and in the 1994-95 school year, they participated in a program called Healthy Choices that was offered by the Massachusetts Department of Public Health. The *Cleveland* schools also offered nutrition

education as part of its health curriculum, but the Team Nutrition Coordinator (TNC) described the extent of the nutrition information as "not very much."

Table 6a. Additional Team Nutrition Implementation Sites

District	Elementary School Population	Number of Elementary Schools	Percent of Elementary School Student Population Composed of Minority Students	Percent of Elementary School Students Receiving Free/Reduced Meals	Existing Nutrition Education Curricula in the District	Food Service Staff Trained in Dietary Guidelines
<i>Lawrence, MA</i>	9,190	15	82	84	Yes	No
<i>Passaic, NJ</i>	5,725	11	96	85	No	No
<i>Cleveland, OH</i>	>40,000	79	85*	74	Yes	No

* African Americans only

In *Passaic*, no formal nutrition education was offered as part of the elementary school curriculum. However, in the past, the district provided students with a Fat Finder Workshop offered by Beth Israel Hospital's Health First Program. Over 1,800 students in grades K-6 participated in this program during the 1994-95 school year. Some nutrition education was provided to elementary school students by the Dairy Council, but the TNC did not have details on the implementation of this program.

None of the communities reported training for district or school food service workers to implement the Dietary Guidelines during the last 2 years.

6.2 PLANNING FOR TEAM NUTRITION

6.2.1 *Applying for the USDA Team Nutrition Pilot Implementation Project*

In *Lawrence*, with the support of the school system's health and nursing services supervisor and the assistant superintendent of *Lawrence* Public Schools, the food services director initiated the effort to apply for a grant. The idea was presented to the health advisory council—

an independent group that advises the school board on health issues—which approved the project and passed it on to the Board of Education for final approval.

According to the *Lawrence* TNC, the district decided to apply for the project because the objectives of Team Nutrition were consistent with the school system's philosophy that food service, nutrition education, and health services should work collaboratively within the district to meet the nutrition needs of students and their families. However, the TNC noted that the *Lawrence* School District's participation was predicated on the understanding that materials would be available in Spanish for teachers of bilingual classes and for parents.

The regional USDA office directly recruited the *Passaic* district to represent the mid-Atlantic. The assistant superintendent of schools in *Passaic*, the district food services supervisor, and staff from the regional office determined that the project would benefit the students in *Passaic* schools. Next, they met with their school board's food services committee, which approved the project and presented it to the Board of Education for final approval.

It was believed that the project would further the district's efforts to educate students and parents about nutrition, provide children with more nutritious meals, and promote community involvement in nutrition education. Also, it was hoped that participation in the project would expedite the district's desire to analyze the nutrition content of the menus and provide food service staff training in implementing the Dietary Guidelines.

The USDA's Midwest regional office recruited *Cleveland* through the Ohio State Department of Education. In late October, a discussion between a representative of the State Board of Education, the superintendent of *Cleveland* Public Schools, the director of food services of the *Cleveland* School System, the director of general education in charge of curriculum, and the two individuals who would be responsible for implementing Team Nutrition made the decision to apply. They felt that the project not only would satisfy the school district's existing nutrition education objectives, but also would greatly expand the level of nutrition education in the schools and improve the relationship between school food service staff and academic personnel.

The *Cleveland* site's later introduction to the project meant that the district experienced extra pressure to draft and revise its TN implementation plan on schedule. Even though the regional office sent someone to assist with the plan's development, the TNCs described developing the implementation plan as "very stressful" because it added to their existing workload.

6.2.2 *Planning for Project Implementation*

Project management was set up in Phase I and was reviewed before implementation of Phase II to consider any new concerns. Management in Phase I varied across the communities:

- In *Lawrence*, the position of TNC was assigned to the school district's health and nursing services supervisor. The food services director and the health education staff supported her management and coordination efforts. The TNC's responsibilities included working with the health education staff, the principals, the teachers, and the food services supervisor to ensure that the project achieved its objectives. The food services director was responsible for menu revisions and training of food services staff. Health education staff served as the primary school contacts and coordinated implementation of the classroom curriculum.
- In *Passaic*, the *Passaic* Board of Education district food service supervisor served as the TNC. He was responsible for managing and coordinating the project and serving as the liaison between community groups and organizations. The vice principals in the implementation schools served as the school contacts.
- In *Cleveland*, the manager of nutrition services and the curriculum supervisor for the *Cleveland* Public Schools shared the role of TNC. They noted that having the project jointly coordinated by food services and the curriculum department enhanced communication with the schools and provided a model for food service and academic staff to work together. The principals of the implementation schools served as the school contacts.

The *Lawrence* TNC and assistant coordinator reported that in Phase II they planned to work closely with school principals to ensure that they received the necessary information and maintained their commitment to implementing Team Nutrition. The TNC had considered withdrawing from the project due to the lack of Spanish language materials; however, it was decided to continue when the principals of the implementation schools renewed their commitment to implementing the project. During Phase II, this site also planned to improve the coordination of food service staff and school personnel in conducting core activities.

The *Passaic* TNC noted that planning for Phase II focused on improving the coordination among the schools, the TNC, and food service staff. Also, during Phase II, the teachers and school coordinators were more involved in planning core activities than they were in Phase I. However, the TNC provided support and obtained the necessary materials and supplies.

In *Cleveland*, Phase II planning primarily involved alerting the pilot school teachers and principals to prepare for the implementation in the early Fall. However, at the onset of Phase II, there was a threat of a teacher strike in the district. The strike was scheduled to begin in late

October, and although it never happened, most of the teachers put Team Nutrition on hold until they knew whether they would be going out on strike. In addition, in October, a levy was proposed to provide additional support to the district's schools. Everyone in the school system was involved in canvassing door-to-door and helping to get district residents to support the levy. This resulted in teachers further delaying implementation of Team Nutrition until November.

6.2.2.1 *Selecting and Recruiting the Schools*

In *Lawrence* and *Cleveland*, the TNCs selected the schools and then contacted the principals to ascertain their interest in participating. In both of these sites, the TNCs indicated that even though all of the principals contacted initially expressed interest in the project, their participation was not entirely voluntary. The *Passaic* TNC presented the TN project to the school principals during a monthly administrative meeting. In *Cleveland*, the schools were selected on the basis of their geographic location and onsite kitchen cafeteria facilities. The TNCs submitted the names of the selected schools to the assistant superintendent, who then communicated the selection to the school principals.

6.3 THE TEAM NUTRITION IMPLEMENTATION SCHOOLS

As shown in Table 6b, there were some large differences in school size which ranged from 200 to over 1200 students. In general, these schools had a higher percentage of minority students than schools in the outcome study. They also had a higher percentage of students receiving free or reduced-priced meals than all but one of the outcome schools. Among the process-only schools, *Cleveland* had a somewhat lower proportion of students who received free or reduced price lunches.

During Phase I, In *Lawrence*, the project was implemented in three schools: two of the schools were K-5 and one was K-8. Although the initial plan was to implement Team Nutrition in kindergarten, second-grade, and fifth-grade, it was implemented in only the fifth-grade during Phase I.

In *Passaic*, the TNC reported both of the schools chosen were very active. One of them was an official community involvement school that regularly held community functions. The other school had a very active parent group. Team Nutrition was implemented in kindergarten, first-grade, and fifth-grade.

Table 6b. Team Nutrition Implementation Schools

School	School Population	Percent of Student Population Minority	Percent Receiving Free/Reduced Meals	Type of Kitchen
<i>Lawrence</i>				
Leahy	644	93.0	82.0	Combination
Tarbox	435	93.0	97.0	Combination
Arlington	1258	74.0	85.0	Production
<i>Passaic</i>				
Mario Drago	709	89.0	75.0	Satellite
Martin Luther King, Jr.	807	96.0	85.0	Production
<i>Cleveland</i>				
MacArthur	237	60.0*	74.0	Combination
Jamison	702	90.0*	74.0	Combination

* African Americans only

In *Cleveland*, both schools had onsite kitchens in which all meals were fully prepared. Such kitchens existed in only four of the 79 schools in the district. The majority of *Cleveland's* schools were built at a time when students went home for lunch and therefore schools did not have kitchens. Now, these schools use the gymnasiums for lunch. They have staff that serve pre-plated meals to the students. The two implementation schools were formerly middle schools which is why they had kitchens. Team Nutrition was delivered in kindergarten, first-grade, and third-grade.

6.3.1 Planning for Phase II

The Phase II implementation in *Lawrence* occurred in two schools. Arlington dropped out of the pilot due to the lack of Spanish-language materials. The plan was to implement the classroom curriculum in kindergarten and second-grade in both schools. However, the kindergarten teacher in one of the schools taught only one lesson. The reason for this was not clear to the TNC, but she noted that neither the TN staff nor the principal were aware of the situation until it was too late to remedy the problem.

The *Passaic* Phase II implementation occurred at the same schools and grades as in Phase I. One of the schools has a full kitchen and the other school receives food from the middle school kitchen and warms it at the school. The TNC noted that there also were nine TN schools, not part of the evaluation, which were asked to teach at least 50 percent of the relevant classroom lessons.

In *Cleveland*, the Phase II implementation occurred in the same schools and grades as Phase I. The TNC noted that there were about 27 additional TN schools, not part of the evaluation, that were using the Scholastic curriculum. The TNC encouraged teachers through memoranda, letters, and presentations at teachers' meetings. After the pilot, in March, 1997, the TNC sent packets to the principals of the district's 80 elementary schools. The packets were intended to encourage principals to promote teaching nutrition among their teachers and included a Food Guide Pyramid bingo game, the Washington Apple Picky Pedro tape, the Dole CD ROM 5-A-Day, and information on where teachers could obtain more resources.

6.4 TEACHER TRAINING FOR IMPLEMENTING THE SCHOLASTIC MODULES

6.4.1 *Description of the Team Nutrition Implementation Site Training*

Lawrence

As in all implementation sites, two teacher training sessions were conducted by Prospect Associates in the *Lawrence* district. A total of 16 teachers were trained. Both training sessions were conducted on a Saturday to avoid hiring substitutes, and teachers were financially compensated for their time.

Lawrence teachers implementing the Scholastic curriculum in Phase II had not participated previously. Consequently, the TN Assistant Coordinator conducted a 4-hour training session for these teachers. The training, which was held during a regular school day, used the USDA training manual and overheads. A staff person from Cooperative Extension Service at the University of Massachusetts and a health teacher assisted with the training. In addition to the USDA training manual, trainers used food models, actual food packages with nutrition labels, and played a Food Guide Pyramid game with the teachers. The Assistant Coordinator indicated that feedback on the training from teachers was positive, but no evaluation of Phase II teacher training was conducted.

Passaic

For each training wave, two separate sessions of comparable size were held. The first day of each wave was reserved for the first-grade teachers (nine participants), while the second day consisted of all the kindergarten and fifth-grade teachers (12 participants). Teachers had only one day of training each because the schools could not afford substitutes for all teachers for both days. For both training sessions, teachers were given a full day off and substitutes were hired to cover their classes.

In Phase II, there were three new teachers in *Passaic* who were implementing the TN lessons. They were trained by the experienced teachers during the course of developing lesson plans.

Cleveland

A total of 33 teachers received training in Phase I. The two training sessions, held at the Cleveland Children's Museum, totaled 7 hours. One training was held during the day and the other was held after the school day. The first session, while well attended, missed a few of the teachers who had trouble arranging for substitutes. Even though the teachers that were present for the training were interested in Team Nutrition, many had concerns external to the training. At the time of the training, *Cleveland* public schools had just gone into state receivership and teachers expressed concerns about their job status in the upcoming school year.

The TNC reported difficulty with logistical details as a result of having additional responsibilities assigned to her. Examples include managing extramural sport activities and cheerleading competitions city wide.

During the second session of training, the trainers had to spend some time orienting the teachers who had missed the first training wave.

Teachers did receive financial compensation for participating in the training.

No additional training was needed in Phase II because there were no new teachers implementing the curriculum.

6.4.2 Teacher Evaluations and Perceptions of the Training

Data from the post-implementation teacher surveys reveal that almost all of the teachers in the process-only schools found the training relevant to teaching the lessons (see Table 6c). In *Cleveland*, nearly all (91%) of the teachers thought that the training improved their ability to teach the lessons, while fewer teachers in *Lawrence* and *Passaic* agreed with the same statement. Note, however, that these percentages are based on a very small number of teachers who actually completed the survey.

Table 6c. Teacher Opinions of Training for Implementing the Scholastic Modules

Percent of Teachers Agreeing That:	<i>Lawrence</i>	<i>Passaic</i>	<i>Cleveland</i>
The training was relevant to teaching the lessons.	100	89	100
The training was necessary for teaching the lessons.	67	44	63
The training improved your ability to teach the lessons.	67	60	91
N (number of teachers completing questionnaires)	(6)	(10)	(11)

Teachers in the process-only schools were not interviewed during site visits. However, when asked about the overall feedback they had received from the teachers, the TNCs said that the training was "very well received and went very well." They also commented that teachers said that they had been well prepared by the training and that they "knew the materials." In one district, the area food service supervisors also attended the training in order to support cafeteria staff. In addition, the teachers in one district suggested that holding the training in the beginning of the year and adding more discussion about the different ways to implement lessons would improve the training.

6.4.3 Teacher Baseline Knowledge

Teacher baseline knowledge was assessed as part of the teacher survey. The teachers completed the survey prior to being trained to use the Scholastic Modules. There were 20 items that assessed nutrition knowledge. These items can be found in Appendix C.

In *Lawrence*, the average number of items correct was 11.1, with a range of scores from 4 to 15 correct. The average number of items correct in *Passaic* was 12.7, with a range of scores from 7 to 18 correct. In *Cleveland*, the average number of items correct was 12.3, with a range of scores from 10 to 15 correct. The mean scores for teachers in *Lawrence*, *Passaic*, and *Cleveland* are lower than the overall mean correct for teachers across all pilot schools (13.3).

6.5 CLASSROOM IMPLEMENTATION OF THE SCHOLASTIC MODULES

Descriptions of the modules and their components can be found in Appendix A.

6.5.1 Teacher Opinions of Nutrition Education

Tables 6d and 6e present data on the teachers' pre-implementation motivation and attitudes toward teaching nutrition in their classrooms.

The results across the districts demonstrate that the teachers were highly enthusiastic about nutrition education. For example, every teacher expressed an interest in incorporating nutrition activities into their classrooms, and nearly all said they had plans to actually do so. Almost all

Table 6d. Teacher Motivation Prior to Phase I Implementation (Pretest Percentages):

Motivational Items	<i>Lawrence</i>	<i>Passaic</i>	<i>Cleveland</i>
*Percent indicating interest in teaching nutrition	95	95	100
Percent indicating interest in incorporating nutrition activities into their classrooms	100	100	100
Percent indicating that students like nutrition subjects as well as other subjects	90	79	89
Percent indicating that they try to influence the food choices their students make outside of school	89	81	57
Percent indicating that they plan to incorporate nutrition more often into their classroom activities	100	90	100
Percent indicating that the classroom is an appropriate place to teach students about nutrition	90	95	100
N (number of teachers completing questionnaires)	(10)	(21)	(14)

*Percentages based on number of teachers answering each question.

expressed an interest in teaching nutrition and felt the classroom was an appropriate place to do it. Somewhat fewer teachers thought that their students were as interested in nutrition as in other subjects—especially in *Lawrence*. Fewer teachers also reported that they tried to influence their students' food choices.

Almost all teachers recognized the benefits of nutrition education for their students (see Table 6e). Most teachers felt that nutrition education in the classroom will help children choose healthier foods to eat, and that good nutrition can positively affect students' class performance. Teachers in *Passaic* and *Cleveland* felt strongly that teaching nutrition will also help reinforce other subjects they teach, while only 60 percent of teachers in *Lawrence* felt this way.

Table 6e. Percent of Teachers Agreeing With Statements Regarding the Benefits of Nutrition Education (Phase I Pretest Percentages)

Percent Agreeing With Potential Benefits of Nutrition Education	<i>Lawrence</i>	<i>Passaic</i>	<i>Cleveland</i>
Nutrition education in the classroom will help children choose healthier foods to eat.	90	90	100
Teaching nutrition will help reinforce other subjects that they teach.	60	95	100
Good nutrition can positively affect students' class performances.	90	100	100
N (number of teachers completing questionnaires)	(10)	(21)	(14)

6.5.2 Adherence to Curriculum

Lawrence

Tables 6f through 6h describes implementation of the Scholastic curriculum in the *Lawrence* district. As noted previously, in this site, only Module 3 was implemented in Phase I, and only Modules 1 and 2 were implemented in Phase II.

6.5.2.1 Time Spent By Teachers

Table 6f shows that fifth-grade teachers in *Lawrence* taught all required lessons, while kindergarten and first-grade teachers taught fewer than the required lessons. The unusually low cumulative duration in kindergarten was due to two things: (1) one of the teachers taught only one lesson and (2) the other teacher spent a relatively short time teaching the lessons. This second teacher taught all the lessons to two different kindergarten classes. In *Lawrence*, the average length of lessons for kindergarten was only 34 minutes.

Table 6f. *Lawrence*: Classroom Implementation of Scholastic Module

	Module 1 (Kindergarten)		Module 2 (Grade 2)		Module 3 (Grade 5)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (per module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	0	6.3	0	6.6	8.0	0	8.0	6.5
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	0	0.2	0	2.9	1.0	0	1.0	2.1
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	0	0.6	0	2.1	2.0	0	2.0	1.6
Cumulative Duration Per Class (Hrs)²	0	3.6	0	13.5	16.0	0	16.0	10.5

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

6.5.2.2 Number of Activities and Materials Used

Table 6g shows that fifth-grade teachers conducted only a few of the activities in the Scholastic module close to the recommended number of times. Overall, 60 percent of the recommended activities were conducted. Second-grade teachers taught considerably fewer activities, generally, about 46 percent of the suggested number.

Table 6g. Lawrence: Average Number of Times Activities Were Conducted Per Class¹

Lesson Activity	Module 2 (Grade 2)			Module 3 (Grade 5)			
	Recommended/ Available	Conducted		Recommended/ Available	Conducted		
		Phase				Phase	
		I	II			I	II
Getting Started	8	NA	6.0	8	7.9	NA	
Activity 1	8	NA	5.9	8	7.6	NA	
Activity 2	8	NA	5.4	8	7.6	NA	
Activity 3	2	NA	0.3	2	1.0	NA	
Lunchroom Link	4	NA	1.4	4	2.3	NA	
Home Connection	7	NA	0.7	6	1.0	NA	
Exercise Connection	0	NA	0.1	1	0.3	NA	
Wrap it Up	8	NA	3.0	8	4.3	NA	
Taking it Further	8	NA	1.4	8	0.1	NA	
Total Activities	53	NA	24.3	53	32.0	NA	

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

Table 6h provides the average number of times particular materials were used per grade. Fifth-grade teachers in *Lawrence* used the student reproducibles and video more often than the minimum recommended, used the student magazines somewhat less often than recommended, and rarely used the parent reproducibles. The infrequent use of parent reproducibles is explained by the fact that for the majority of parents in the *Lawrence* schools, Spanish is the primary language. Because none of the Scholastic materials for parents were available in Spanish, the teachers opted not to use them. Second-grade teachers generally made infrequent use of the available materials.

In Phase I, *Lawrence* teachers reported that they had difficulty integrating the curriculum into other subjects. Few teachers indicated a willingness to participate in Phase II.

Table 6h. Lawrence: Average Number of Times Materials Were Used Per Class

Material	Module 2 (Grade 2)			Module 3 (Grade 5)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
			Phase			Phase
			I			II
Parent Information Sheets (reproducibles)	7	NA	0.6	7	1.7	NA
Student Information Sheets (reproducibles)	8	NA	4.7	7	7.7 ¹	NA
Student Magazine	2	NA	1.7	6	3.9	NA
Video	4	NA	1.1	5	6.4	NA
Total Materials	21	NA	8.1	25	19.7	NA

¹Value may be greater due to teacher using student information sheets in more than the recommended lessons.

The TNC offered additional explanations for the teachers' reactions to implementing the curriculum:

- The lack of materials in Spanish for parents and for the teachers of bilingual classes was very disappointing. The absence of Spanish language materials meant that the teachers could not reach out to parents or students in some classes.
- The school districts recently implemented a system in which the teachers' job status depended on students' scores on various standardized tests. The teachers may have felt that the time spent on implementing the TN curriculum was not as worthwhile as teaching the academic subjects on which the students will be tested and for which the teachers would be held accountable.

Passaic

6.5.2.3 Time Spent By Teachers

The information in Table 6i indicates that teachers in the *Passaic* district completed most of the required lessons in all modules in both phases. There was a general increase in the average

number of lessons taught from Phase I to Phase II across all grades, but particularly in the kindergarten classes. The average duration of lessons also increased from Phase I to Phase II in the kindergarten classes, but decreased slightly in the other two grades.

Table 6i. Passaic: Classroom Implementation of Scholastic Module

	Module 1 (Kindergarten)		Module 2 (Grade 1)		Module 3 (Grade 5)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (per module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	6.8	8.0	7.3	7.8	6.6	7.1	7.0	7.6
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	0.9	0.9	1.1	1.2	2.6	2.7	1.6	1.7
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.4	1.9	2.6	2.5	1.4	1.2	2.1	1.7
Cumulative Duration Per Class (Hrs)²	9.2	15.0	19.2	19.1	11.8	8.3	14.5	14.0

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

In Phase II, kindergarten children were exposed to more nutrition education than in Phase I. The exposure of first-grade students to nutrition education did not change much from Phase I to Phase II, but was considerably higher than that for either kindergarten or fifth-grade students. Overall, first-grade teachers spent almost twice as long teaching the lessons as did fifth-grade teachers.

6.5.2.4 Number of Activities and Materials Used

As shown in Table 6j, *Passaic* teachers in both first- and fifth-grades did not always conduct the expected number of activities. In general, fifth-grade teachers conducted fewer activities than

did first-grade teachers, which may explain why the duration of lessons was shorter for fifth-graders.

Table 6j. Passaic: Average Number of Times Activities Were Conducted Per Class¹

Lesson	Module 2 (Grade 1)			Module 3 (Grade 5)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	6.3	7.3	8	5.5	6.0
Activity 1	8	7.2	7.3	8	6.3	6.0
Activity 2	8	6.9	7.0	8	4.9	5.5
Activity 3	2	1.1	1.3	2	1.0	1.6
Lunchroom Link	4	1.8	0.5	4	2.4	1.3
Home Connection	7	4.0	4.1	6	4.0	3.8
Exercise Connection	0	0.0	0.1	1	0.5	0.3
Wrap it Up	8	4.8	5.3	8	1.4	1.8
Taking it Further	8	1.7	1.4	8	2.3	0.8
Total Activities	53	33.8	34.1	53	28.1	26.9

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

Table 6k indicates that *Passaic* teachers in both phases appear to have used the materials in the Scholastic lessons somewhat less often than recommended. Teachers taught the Scholastic lessons as part of their health and science curriculum. There was a noticeable increase from Phase I to Phase II among first-grade teachers' use of parent information sheets and fifth-grade teachers use of student reproducibles and the student magazine.

In *Passaic*, the TNC noted that classroom implementation was delayed in Phase I because he initially believed that implementation of the classroom activities would not require support from food services staff. Once he recognized that the implementation of many classroom activities depended on food service staff support, the food services staff began to follow the modules

along with the classes so they could "keep a step ahead and be sure to get them the supplies when they needed them." The TNC also enlisted the involvement of several food services staff members and made them responsible for coordinating various efforts with the classroom activities.

Table 6k. Passaic: Average Number of Times Materials Were Used Per Class

Material	Module 2 (Grade 1)			Module 3 (Grade 5)		
	Recommended/ Available	Used		Recommended/ Available	Used	
		Phase			Phase	
		I	II		I	II
Parent Information Sheets (reproducibles)	7	4.9	5.5	7	4.5	4.5
Student Information Sheets (reproducibles)	8	5.3	5.4	7	5.1	5.9
Student Magazine	2	1.3	1.0	6	4.1	5.0
Video	4	2.0	1.3	5	2.3	2.1
Total Materials	21	13.6	13.1	25	16.0	17.5

Cleveland

6.5.2.5 Time Spent By Teachers

Cleveland teachers taught most of the lessons in the Scholastic modules (Table 6l) in both phases. Kindergarten teachers taught all of the required lessons for Module 1 in Phase II. First-grade teachers taught most of the lessons in Phase I, and all of them in Phase II. However, fifth-grade teachers taught fewer lessons in Phase II than they did in Phase I.

The average duration of lessons taught was fairly similar in both phases, although there was an increase of between 20 and 30 minutes for Grades 5 and 1, respectively. Teacher planning

time decreased substantially in both kindergarten and first-grade, while it remained the same in fifth-grade. The average cumulative exposure of students to nutrition education increased from Phase I to Phase II modestly for kindergarten and substantially for first-grade, but decreased by approximately 1 hour in Grade 5.

Table 6l. Cleveland: Classroom Implementation of Scholastic Module

	Module 1 (Kindergarten)		Module 2 (Grade 1)		Module 3 (Grade 5)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic Lessons (per module)	9	9	8	8	8	8	NA	NA
Avg. # of Lessons Taught ²	8.0	9.0	7.6	8.0	7.5	6.2	7.7	7.1
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	1.7	0.8	1.5	0.9	0.9	0.9	1.3	0.9
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.8	1.7	1.7	2.2	2.1	2.4	1.3	2.1
Cumulative Duration Per Class (Hrs)²	14.6	15.1	12.8	17.2	15.8	14.9	14.5	15.2

¹Hours reflect time reported by teachers, divided by 60 minutes

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

6.5.2.6 Number of Activities and Materials Used

Cleveland teachers conducted from 46 to 70 percent of the recommended activities in the Scholastic lessons (Table 6m) in both phases. In fifth-grade classes, there was a notable decrease over time in the number of activities being conducted while first-grade teachers conducted somewhat more activities in Phase II.

Table 6m. Cleveland: Average Number of Times Activities Were Conducted Per Class¹

Lesson	Module 2 (Grade 1)			Module 3 (Grade 5)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	6.6	8.0	8	5.5	3.8
Activity 1	8	7.4	7.0	8	7.0	6.2
Activity 2	8	6.4	7.0	8	6.7	5.0
Activity 3	2	1.0	2.0	2	1.7	1.4
Lunchroom Link	4	2.2	2.0	4	1.0	0.2
Home Connection	7	2.0	3.0	6	3.8	3.6
Exercise Connection	0	0.4	0.0	1	0.5	0.0
Wrap it Up	8	3.6	8.0	8	4.7	3.2
Taking it Further	8	3.2	0.0	8	1.3	1.0
Total Activities	53	32.8	37.0	53	32.2	24.4

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

As shown in Table 6n, first-grade teachers used the parent and student reproducibles and the video only one-half as often as recommended in Phase I, but their use of these materials increased in Phase II. In contrast, use of these TN materials was high among fifth-grade teachers in Phase I, but declined considerably in Phase II, with the exception of the video. Although fifth-grade teachers conducted fewer activities and used fewer materials in Phase II, on average they spent more time on each lesson taught.

The *Cleveland* TNCs indicated that the implementation of the Scholastic curriculum was very successful in both phases; although, as noted previously, it got off to a late start in Phase II. The curriculum was usually integrated into other subjects, particularly science, math, and language arts. The TNCs also noted that they stressed to the teachers the importance of using parents as volunteers in the classroom, and some teachers did call mothers for classroom assistance during Phase I.

Table 6n. Cleveland: Average Number of Times Materials Were Used Per Class

Material	Module 2 (Grade 1)			Module 3 (Grade 3)			
	Recommended/ Available	Used		Recommended/ Available	Used		
		Phase				Phase	
		I	II			I	II
Parent Information Sheets (reproducibles)	7	3.6	6.0	7	6.3	4.0	
Student Information Sheets (reproducibles)	8	4.4	6.0	7	6.5	5.0	
Student Magazine	2	2.8	1.0	6	4.5	2.8	
Video	4	2.2	3.0	5	4.2	4.2	
Total Materials	21	13.0	16.0	25	21.5	16.0	

In both phases, the *Cleveland* TNCs facilitated implementation by supplying teachers with all of the copies of the student and parent reproducibles they needed. This decreased the burden and the cost to teachers of copying these materials themselves. The TNC noted that they plan to continue doing this for all schools that want to implement the TN curriculum.

6.5.3 Teacher Attitudes Toward Scholastic Materials

Table 6o displays teacher attitudes toward the Scholastic materials for *Passaic* and *Cleveland*. Because only three teachers in *Lawrence* completed this section of the post-implementation questionnaire in Phase I, their data are not included. We have included their data for Phase II. Even in *Passaic* and *Cleveland*, fewer than 10 teachers completed this portion of the questionnaire, so the results should be interpreted with caution.

In both phases, from 75 to 100 percent of teachers reported that they were generally satisfied with the Scholastic materials. Similar proportions of teachers in the three communities felt that the Scholastic materials were developmentally, educationally, and culturally appropriate for their students, although the percent of positive responses on these three specific dimensions decreased from Phase I to II.

Table 6o. Teacher Attitudes Toward Scholastic Materials

	<i>Passaic</i>		<i>Cleveland</i>		<i>Lawrence</i>	
	Phase		Phase		Phase	
	I	II	I	II	I	II
Percent of Teachers Who Reported That They Were Satisfied With Scholastic Materials	75	95	89	100	NA	100
Percent of Teachers Who Agree or Strongly Agree That:						
The Scholastic materials were appropriate for the developmental level of the students in my class.	100	90	100	90	NA	100
The Scholastic materials were appropriate for the educational levels of the students in my class.	100	75	100	90	NA	100
The Scholastic materials were culturally appropriate for the students in my class.	88	70	100	90	NA	100
The activities suggested in the Scholastic materials were appropriate for my classroom.	63	75	63	75	NA	100
The content of the Scholastic materials did provide sufficient background for my nutrition-related teaching needs.	38	70	100	90	NA	86
The classroom activities met my nutrition-related teaching needs.	63	84	56	80	NA	88
Having the Scholastic materials makes it easy to teach about nutrition.	100	100	89	80	NA	100
I will teach more about good nutrition in the future if I can use the Scholastic materials again.	63	75	100	90	NA	100
The Scholastic materials are better than other nutrition teaching materials I have used.	33	63	100	90	NA	100
N (number of teachers completing questionnaires)	(8)	(20)	(9)	(10)	NA	(8)

By Phase II, a majority of teachers across all three sites felt that the Scholastic materials provided sufficient background for their nutrition-related teaching needs. In *Passaic*, there was a substantial increase in the percentage of teachers agreeing with this statement between Phase I (38%) and Phase II (70%). More teachers in Phase II also felt that the classroom activities met their nutrition-related teaching needs.

Most teachers indicated that having the Scholastic materials made it easy to teach about nutrition. Also, most teachers in *Cleveland* and *Lawrence* indicated that they would teach more about good nutrition in the future if they can use the Scholastic materials. They also noted that these materials are better than other nutrition materials they have used. Fewer teachers in *Passaic* agreed with these two statements, especially in Phase I.

In both phases, about half the *Passaic* teachers agreed that the time required to prepare and teach the Scholastic lessons was reasonable (see Table 6o1). In Phase I, the response of *Cleveland* teachers was similar; however, in Phase II a majority found the time demands reasonable. Most teachers in *Lawrence* felt that the preparation and teaching times were reasonable (Phase II only).

Table 6o1. Teacher Attitudes Toward Time to Teach Scholastic Modules

Percent of Teachers Who Agree or Strongly Agree That:	<i>Passaic</i>		<i>Cleveland</i>		<i>Lawrence</i>	
	Phase		Phase		Phase	
	I	II	I	II	I	II
The time required to prepare to teach the Scholastic lessons was reasonable.	50	53	56	80	NA	100
The time required to teach the Scholastic lessons was reasonable.	50	40	33	70	NA	88

Based on the TNC interview responses in Phase I, the experience of implementing the Scholastic modules was quite different in *Lawrence* than in *Cleveland* and *Passaic*. The general consensus at all of the sites was that the timeframe for implementing the curriculum was far too short, the lessons took much longer to implement than anticipated, and the time of year conflicted with other activities and curriculum requirements. In *Passaic* and *Cleveland*, the TNCs reported that despite these problems, the teachers were enthusiastic about the curriculum and looked forward to using it in the future. However, in *Lawrence* the TNC reported that even though many of the teachers liked the curriculum, they did not feel it was worth the time and effort.

Lawrence

The teachers in *Lawrence* voiced concerns over two issues. First, the teachers felt that they would not have enough time to complete the entire curriculum. Second, although not indicated in the teacher surveys, interviews revealed that they were concerned about the language barrier for a large majority of their students (80% Hispanic). They noted that the language barrier also affected their contact with parents; thus, most of the home materials were not sent to the parents for this reason.

In Phase II, the TNC and Assistant Coordinator in *Lawrence* noted that the teachers "really liked" the Scholastic materials and the hands-on activities. However, kindergarten teachers reported difficulties finding the recommended books for their classes, and second-grade teachers indicated that many of the activities were too time-consuming.

A general consensus of *Lawrence* teachers was that the curriculum would work better if it were spread out over the school year. *Lawrence* teachers were reported to be somewhat overwhelmed with recent demands for meeting State-wide standards in science and math and, consequently, had little time to plan for integrated lessons during the brief timeframe for implementation. The *Lawrence* district plans to continue using the TN curriculum, but in the future it will include Spanish-language materials for students and parents, spread lessons and core activities over the school year, and complete fewer activities per lesson.

Passaic

The teachers in *Passaic* also raised concerns about the amount of time needed to complete all lessons within the implementation timeframe. Another concern centered on the teachers' access to the supplies needed to implement all the lessons.

The TNC reported that in Phase II, *Passaic* teachers found the implementation process to be easier than it was in Phase I. They reported that because of their previous experience with the curriculum, they were able to use it in more flexible ways and to integrate it better with subjects such as science, math, social studies, and health.

The *Passaic* TNC noted that the district plans to continue using the curriculum in the future, but will work more closely with the district curriculum coordinator to identify activities from the module that can be integrated with other required subjects. The TNC has obtained approval to spend \$1,000 to order new modules from Scholastic and has already completed a purchase order for the necessary foods and materials for next year. The teachers at the pilot school indicated that if they were to teach it again, they would want original color copies rather than a photocopy because the colors have more pizzazz. Teachers also told the TNC that in teaching the curriculum again, they will "pick and choose" the activities they want to teach and will use those that best integrate with the basic subjects.

Cleveland

Although the teachers in *Cleveland* were also concerned about the amount of time needed to prepare for each of the lessons, as well as getting the necessary supplies for the activities, they felt that they would be able to resolve these issues and finish implementation of the lessons within the allotted timeframe. According to one of the TNCs, the teachers "were very favorable toward the curriculum and really want to do it again." In addition, she said that they learned "a lot" and enjoyed getting the students involved. The TNC also felt that the activities and lessons helped promote better communication between the food service and the academic staff at the schools.

Cleveland plans to continue implementing the curriculum in the pilot schools and is making a concerted effort to expand curriculum implementation to the TN schools that were not part of the evaluation.

6.6 IMPLEMENTATION OF SCHOOL-BASED CORE ACTIVITIES

Figures 6a1, 6a2, and 6a3 contain timelines for the school-wide and community events in the three communities during Phase I. Phase II timelines are shown in figures 6b1, 6b2, and 6b3.

Lawrence

Many of the school-based events in *Lawrence* were tied closely to the Scholastic modules. In Phase I, a series of events, such as taste-testing foods, menu planning, and kitchen tours took place. These activities are found in the modules and were replicated with other students using the TN curriculum. A Food Guide Pyramid activity was also conducted. This activity involved second-grade students putting pictures of different foods on a large pyramid hanging on one of the walls in a hallway of the school. The district viewed these activities as school-wide events.

A Parent Nutrition Training session was hosted by one of the implementation schools. Parents from all three implementation schools were invited. A bilingual discussion was held on food labels and healthy eating choices.

The *Lawrence* TNC noted that cafeteria activities were very informative and everyone involved enjoyed them. She felt that they gave both the students and teachers a different perspective on the food services staff.

In Phase II, the school district staff were heavily involved in municipal affairs that affected funding for schools. This issue caused a delay in the implementation of TN in Phase II and as a result activities began in December and were completed in May 1997. Although, they were completed after the planned evaluation period, activities through March 1997 are included in this report.

The TN assistant coordinator held another Parents Night at a different school. This was a workshop on nutritional snacks. The assistant coordinator prepared snacks for the parents to taste using the USDA Cookbook (cereal crunch mix and a cheese and bean dip). She talked about preparing healthy snacks and gave ideas for substitutions for snacks and dinner. About 20 to 25 parents attended as well as children, teachers, and food service personnel.

A Spanish-language translator participated in the event and the Cooperative Extension Service at the University of Massachusetts obtained and duplicated materials in Spanish to be handed out to the parents. The TN assistant coordinator noted that without the translator and the Spanish-language materials, the workshop could not have been done.

Another activity in *Lawrence* was a taste-testing for second-graders at both implementation schools. Food services staff made fruits and vegetables available for the children to taste and talked to them about the foods.

One of the *Lawrence* schools also held a multicultural day, which involved Team Nutrition. Parents contributed different ethnic foods to TN classes and then the teachers discussed the nutritional content of the foods during the day.

The *Lawrence* TNC and the Assistant Coordinator noted that the Food Service Manager attempted to develop a chef activity, but was unable to find a local chef who was willing to volunteer the time.

Passaic

In *Passaic*, a number of core activities were conducted in Phase I. A Picnic in the Park was held for all of the kindergarten children in one of the implementation schools. During the picnic,

**Figure 6a1: TN Core Activities
Lawrence, Massachusetts—Phase I**

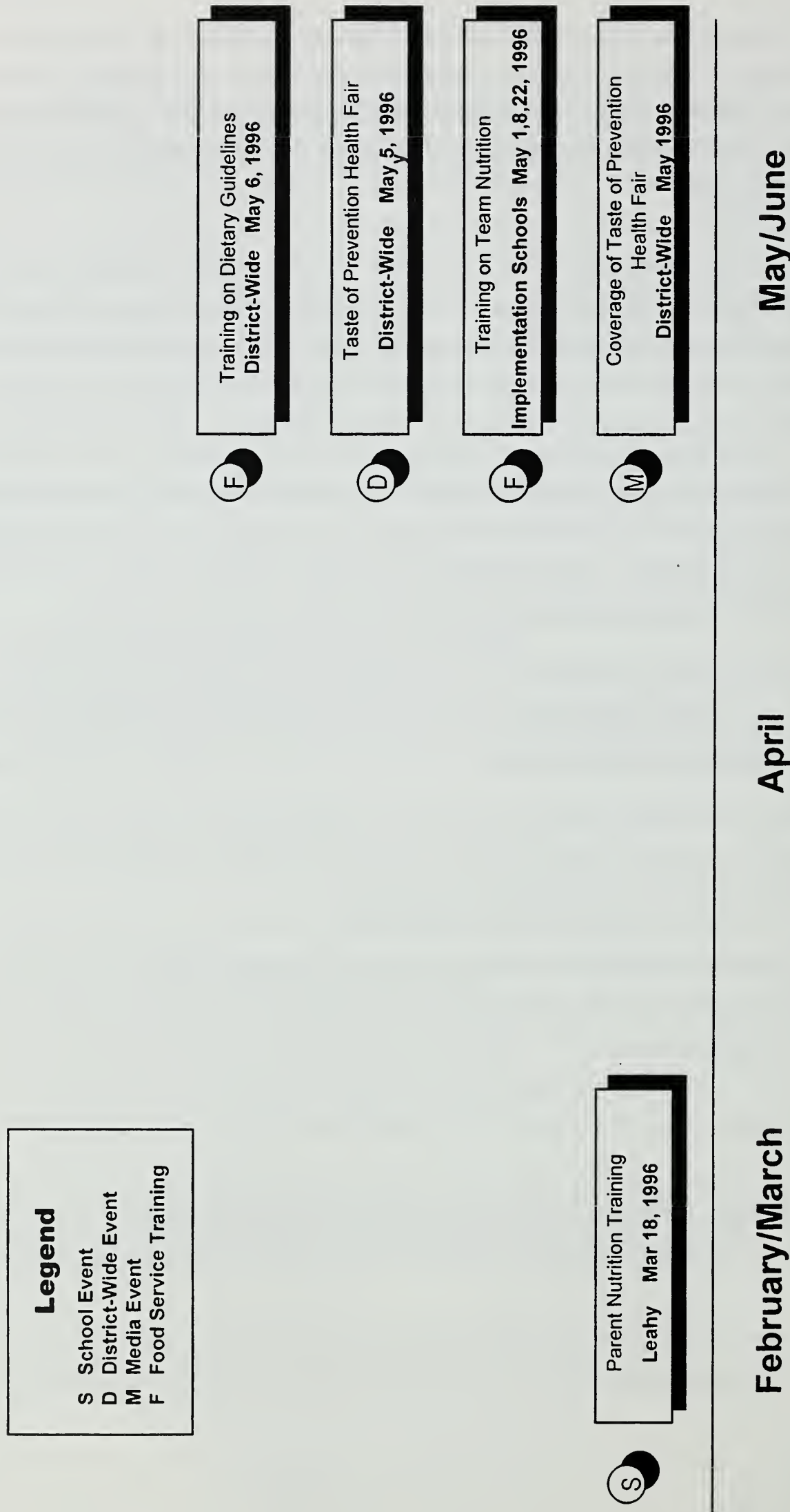


Figure 6b1: TN Core Activities Lawrence, Massachusetts—Phase II

Legend
 S School Event
 D District-Wide Event
 M Media Event
 F Food Service Training

Food Service Training with
 Representative from Cooperative
 Extension at Univ. of Massachusetts
 District-Wide Jan 27, 1997

Fruit & Vegetable Taste-Testing
 Implementation Schools Dec 11, 18, 1996

Multicultural Day
 Leahy Feb 27, 1997

Parent Workshop
 Tarbox Mar 6, 1997

December/January

February

March

the children learned how to assemble a nutritious picnic lunch, and teachers reviewed good nutrition habits.

An International Food Day was developed for the first- and fifth-grades of the same implementation school. This involved tasting a variety of foods from different countries and included Mexican, Italian, Chinese, and French food. The nutrition messages were to increase the intake of vegetables, decrease the intake of fat, and eat a variety of foods. The TNC noted that several parents and representatives from various organizations, such as the Spanish Information Center and Head Start Center, were in attendance.

A Nutrition Olympic Day was held for the other implementation school. Nutrition was featured in conjunction with various sports events such as races or long jumps. Students invited their parents to the event to participate and act as helpers. The event was held at the high school football field, and refreshments were provided by food service staff. The refreshments included a vegetable station with various vegetables and dips, a fruit station, and a meat station. Nutrition education materials were available for parents and students, and students were given the Food Guide Pyramid to help them identify the various food groups. The TNC noted that a key message for this activity was the importance of good nutrition for athletes.

In *Passaic*, community and school activities were combined in Phase II. The TNC noted that because parents from implementation schools were invited to the school activities, they considered them to be community events. Two of the activities conducted in Phase II occurred in April, after the originally planned evaluation period. These activities were still included in this report.

A produce fair called Team Nutrition and Jersey Fresh was conducted in both implementation schools and involved a display of fresh produce in an all-purpose room or cafeteria immediately after school hours. The TNC noted that they had better success with parent involvement if they implemented their activities at the end of the school day when many parents came to pick up their children than if they tried to put them on in the evenings. For this event, children and parents came in and tasted the fruits and vegetables displayed, learned about their nutritional value, and took some of the produce home after the program was over. The nutrition message was to eat more fruits and vegetables.

The produce was supplied by M & F Foods at no charge. The event also was attended by the Superintendent of Schools, who welcomed the parents and children. Speakers included

Figure 6a2: TN Core Activities Passaic, New Jersey—Phase I

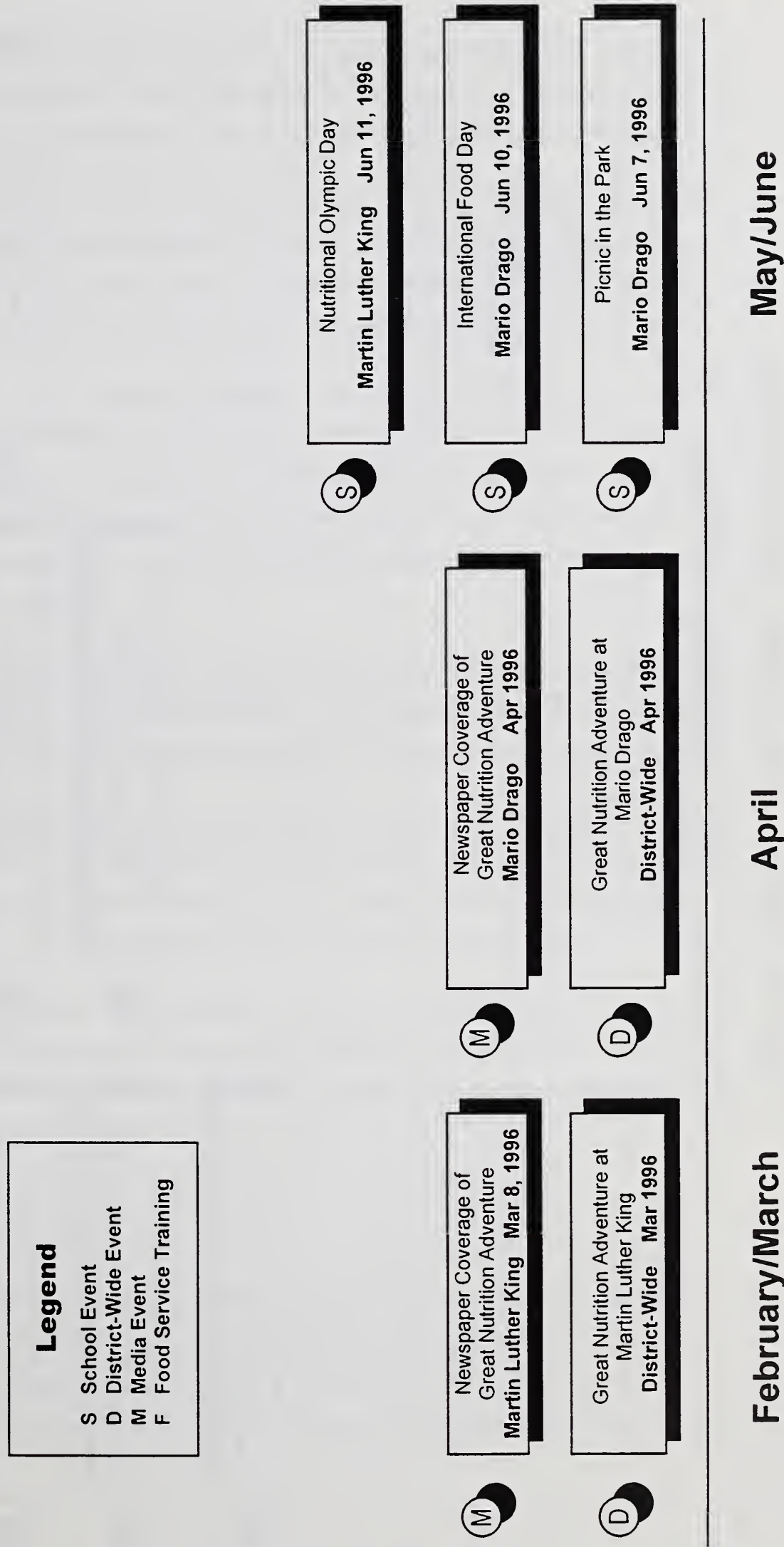


Figure 6b2: TN Core Activities Passaic, New Jersey—Phase II

Legend
 S School Event
 D District-Wide Event
 M Media Event
 F Food Service Training

D

Community School Opening
 Martin Luther King Nov 12, 1996

S

Pumpkin Farm Field Trip
 Implementation Schools Oct 1996

S

Supermarket Field Trip
 Implementation Schools Oct 1996

F

Food Service Training
 District-Wide Sept 1996

S

International Flavor & Nutrition Fair
 Mario Drago Dec 13, 1996

S,M

Team Nutrition & Jersey Fresh: A Perfect
 Match and Produce Fair
 Implementation Schools Dec 11, 1996

S

Food Grows Cafeteria Tour
 Mario Drago Nov 26/Dec 2,4,9-12, 1996

S

Supermarket Field Trip
 Implementation Schools Apr 1996

S

Chef Demonstration of Low-fat Meals
 Martin Luther King April 17, 1997

September/October/
November

December/January

February/March/
April

personnel from the offices of the New Jersey Secretary of Agriculture and the New Jersey Director of the Bureau of Child Nutrition. The President of M & F Foods has been very involved in the project since its onset and supported all of the events for which food was provided.

Another activity was the International Flavor and Nutrition Fair. This occurred at Mario Drago with first- and fifth-graders invited to attend the fair. Finger foods from different nationalities were displayed in the school's all-purpose rooms. The nutrition message was to eat a variety of foods. Again, the event was held immediately after school and parents were invited to attend.

There was also a Community School Opening at Martin Luther King. The school hosted an open house for the community of *Passaic* to "kick off" the school year and informed parents about TN. Parents were encouraged to duplicate the efforts that were being made at school at home by including more grains, fruits, and vegetables in their meals. Food was available afterwards. Teachers, students, parents, food service workers, administrators and community members were involved in this activity.

Another event at Martin Luther King included a chef from Beth Israel Hospital who planned and created health-conscious meals for parents and children. The meals included low-fat macaroni and cheese, chicken stir-fry chicken with rice, fresh produce, and whole-wheat sugar cookies.

In addition, one of the schools conducted an activity for first- and fifth-graders based on the first lesson of Module 3, Food Grows. The students toured the kitchen at a nearby hospital, were introduced to staff, discovered where foods come from (e.g., wheat and sugar), and learned how the menus are planned. The hospital gave out brochures and provided food.

The TNC noted that there was a good representation of parents at the events. In addition to these events, kindergarten and first-graders went on field trips as part of the TN curriculum. They went to local farms where they picked pumpkins and discussed how food grows and to supermarkets where they identified healthier food choices.

Cleveland

Cleveland conducted a number of school-based core activities. The Florida Citrus Tangerine Event, implemented in the two pilot schools, provided students the opportunity to taste tangerines. The Florida Citrus Commission provided a volunteer, T-shirts, and puzzles. Teachers wore the T-shirts and presented lessons to children on the importance of eating fruits.

The TNCs noted that the event was very successful. They said that prior to this event, only about one-third of the children in the schools had ever eaten a tangerine.

The Washington Apple Event was held, for which the Washington Apple Commission provided games and materials for each elementary school in the district. The TN project provided apples for all of the children. Pogs were given to reward children for eating their apples and were given to TN classroom teachers for use in classroom exercises. Limited planning time did not provide enough advance notice for chefs or growers to come to the school, talk to students, and prepare apple recipes as was originally planned.

A parent contact event was also held for the parents and teachers from each pilot implementation school. During these meetings, materials and brochures were distributed, and a district staff member spoke. The focus was on the influence of culture on the food choices that a family makes and how their lifestyles and health are affected.

In addition, a large district meeting was held on 3 consecutive days, with approximately 120 parents, teachers, and students attending. The scope of the meeting involved health and wellness issues. One focus area included nutrition, eating styles, and making healthy choices. Students were able to discuss these issues and learn how nutrition impacts their lives.

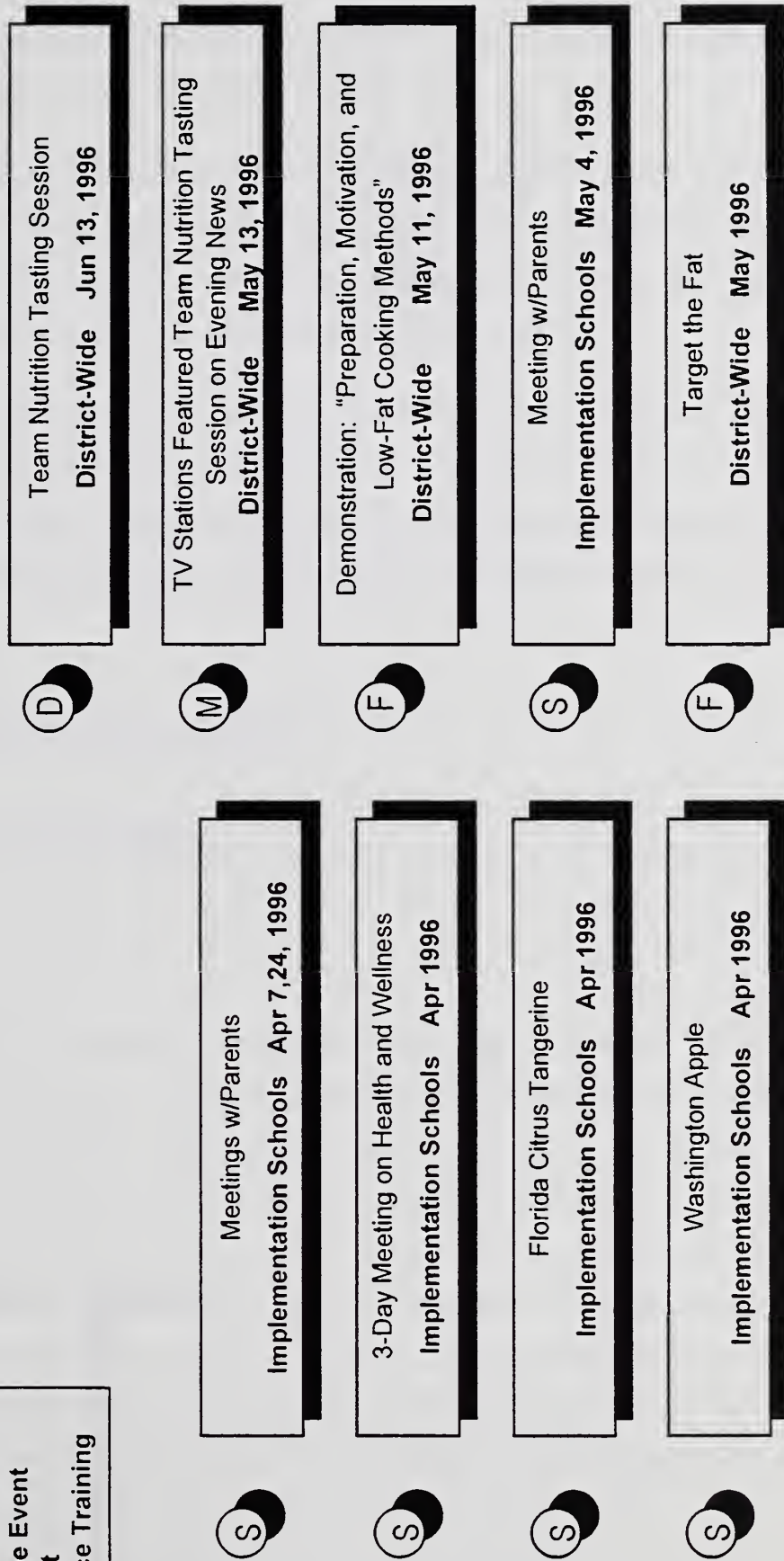
During Phase II in *Cleveland*, a few activities were delayed due to the teacher strike in the beginning of Fall 1996. Phase II was extended into Spring 1997 so that more activities from *Cleveland* could be included in the evaluation. *Cleveland's* activities are included through March 1997.

The major core activity was a nutrition fair that was held when the USDA Undersecretary for Food and Nutrition Service visited that site. More than 20 vendors came to one of the pilot elementary schools and set up food displays in the gym. All of the collaborating partners participated in this event, including the Dairy Council, the American Heart Association (AHA), and the Department of Nutrition at Case Western Reserve University. A chef from Miners Food, another one of the partners, prepared stir-fry. In addition, a chef from Lakewood Hospital provided a child program curriculum for teacher to use with kindergartners and assisted the other chef with preparing the

Figure 6a3: TN Core Activities Cleveland, Ohio—Phase I

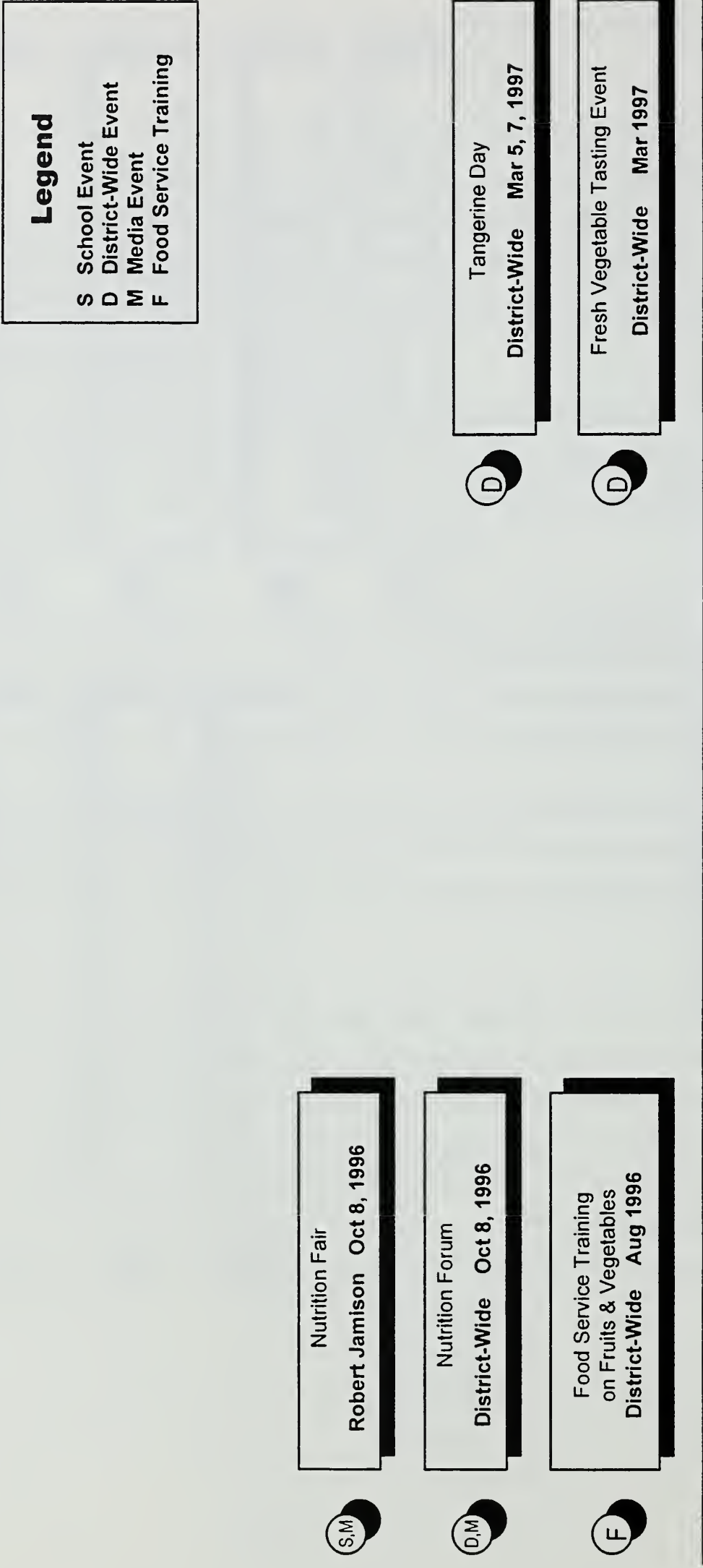
Legend

- S School Event
- D District-Wide Event
- M Media Event
- F Food Service Training



February/March April May/June

Figure 6b3: TN Core Activities



stir-fry. The event ran from 10:00 a.m. to 2:00 p.m. All children in the school went through the gym at some time during that day and sampled foods. Parents were also invited. The event was covered by all television stations and a few radio stations.

Two tasting events were implemented district-wide during Phase II. One of these was a fresh vegetables tasting event. Carrot sticks, celery sticks, broccoli, and other vegetables were provided for the students to taste during lunch. All schools had a tangerine day, as well. Teachers were given tangerines and some materials on the "zipper fruit."

The *Cleveland* site received a grant from the American Dietetic Association to provide training to four dietary interns from Case Western Reserve University. The interns went to schools that were not pilot implementation schools to use the TN materials with kindergarten teachers. Each of the interns taught two to three TN lessons to kindergarten students at the selected schools.

6.7 FOOD SERVICE ACTIVITIES AND CHANGES

6.7.1 Plans for Meeting Dietary Guidelines

Lawrence

Prior to becoming involved with TN, *Lawrence* had implemented recipes from the USDA Commodities Cookbook. Once TN began, recipes were also implemented from the TN recipe book, *A Tool Kit for Healthy School Meals: Recipes and Training Materials*. In Phase II, the *Lawrence* site continued making changes in menus to meet Dietary Guidelines. They used the Dietary Guidelines to add new items to their menus every month. For example, new types of bread were offered such as rye and pumpernickel instead of white bread or hamburger buns; more vegetables such as broccoli were added; and more fruits such as strawberries and pears were offered when they were in season. In addition, staff watched to see when market prices of fresh fruits and vegetables dropped so that they could substitute in new items for items already on the menu.

They also used commodity processed meat products such as pre-cooked hamburgers and taco meat so that staff could have more control over the fat and salt content. In addition, when tacos were made, ground turkey or pork were substituted for some of the ground beef in order to cut back the fat content. In some cases, both turkey and pork were mixed in with the beef.

Lawrence, Passaic, Cleveland

Lawrence also included other commodity processed foods such as freeze pops made with real fruit juice to add variety to the menus.

Passaic

Passaic planned some menu changes focusing on lowering fat, increasing fiber, and increasing fruits and vegetables. According to the TNC, the school district is currently in the process of revising the contract specifications for the vendor that supplies the pre-plates for the school meals. The new specifications will require that the contractor have a total weighted average for 5 days that meets Dietary Guidelines for fat (i.e., less than 30% of calories from fat).

During Phase II, the *Passaic* school district continued making changes in menus to meet Dietary Guidelines. They offered more fruits and vegetables, increased grains, and reduced fat content both in their food preparation and through the kinds of foods offered. The TNC noted that it has been difficult to reduce fat content and keep the calories at the required level. He reported that in order to keep calories at the required level, the district has added items that are high in sugar, such as chocolate milk and low-fat cookies. The TNC reported that parents and teachers have complained about the increased sugar in the menus, and expressed the opinion that this sends confusing messages to parents and children.

Cleveland

In Phase I, the TNCs in *Cleveland* anticipated being in compliance with the Dietary Guidelines by the Winter of 1997. The district took steps to meet the Dietary Guidelines, including reducing the fat in milk and revising recipes to reduce fat and increase fiber. They also requested lower-fat items from vendors, and vendors agreed to provide nutritional information on their products.

In Phase II, the *Cleveland* TNC noted that all of their menus were now being analyzed for nutrient content. Saturated fats were the focus of menu changes. They had already been using turkey products in luncheon meats to reduce fats. To help reduce more fat in the meals, *Cleveland* began using cooking techniques such as grilling foods instead of breading and frying.

In addition, *Cleveland* made use of Department of Defense commodity allocation dollars to purchase fresh vegetables and expand the fresh fruit offerings. Examples of the fruits and vegetables include tangerines, celery, and carrot sticks.

An effort was made to conduct analysis of school lunch menus in *Lawrence*, *Passaic*, and *Cleveland*. However, this presented a number of measurement challenges which are addressed in Appendix D.

6.7.2 Food Service Staff Training

Lawrence

Training of food service staff also varied by district. The *Lawrence* TNC reported that in Phase I, the implementation schools' food service staff had received 10 hours of training over 4 weeks on Team Nutrition and that revised menus were in place. The district food service employees also attended a training session on the Dietary Guidelines. She noted that, in contrast to the teachers, the food service staff has been very happy with the project and feel that linkages between the food service and school staff have been strengthened by the project.

During Phase II, food service staff training in *Lawrence* was conducted through regular in-service days. At one of these in-services, a representative from Cooperative Extension at the University of Massachusetts talked about nutrition and the new Dietary Guidelines. During Phase II, in-services also focused on sanitation, safety, and first aid in the kitchen.

Passaic

In *Passaic*, food service training was conducted in the Fall of 1996. The district hired the nutrition educator from Beth Israel Hospital's Healthy First program to conduct menu analysis and training on meeting Dietary Guidelines for the food service staff.

In Phase II, a district-wide training was provided in September to all food service workers. This involved a 3-hour session that focused on practices and procedures for reducing fat in the meals, such as removing the skin from chicken, using low-fat cheese, and mixing butter and soy oil to reduce saturated fats. The session also focused on the new Dietary Guidelines so that food service staff would understand why these changes were being made.

The *Passaic* TNC noted that food service staff were involved in the project through preparing the foods, helping with the school-based/community activities, and providing kitchen tours to the children.

Cleveland

In Phase I, *Cleveland* conducted two training sessions for food service staff. One session included food service managers, cooks, and area supervisors. Two chefs demonstrated cooking and cutting techniques, and one of the TNCs provided nutrition information. The second training effort, Target the Fat, involved separate 2.5-hour sessions for five different groups of food service personnel. This training was provided by The Dairy Council and one of the TNCs and targeted each area's elementary school satellite cooks, secondary school food service managers and cooks, and food services staff. During these sessions, the TNC talked about the TN project, and the Dairy Council talked about the Dietary Guidelines.

In August, just prior to the implementation of Phase II, there was a 1- to 1.5-hour training for food service staff. The focus was on increasing fruits and vegetables and included relevant production methods.

The TNCs reported that the response to these training sessions was very positive. As one noted, "Food service staff had not received nutrition education on a formal basis until now. Many of the people who run the cafeterias and cook the food have not been trained in nutrition. They were really excited about learning the new information and they all wanted to come to the training."

6.7.3 Support to Facilitate Food Service Staff and Teacher Relationships

The TNCs at each site made suggestions for developing the food service staff-teacher relationship. In *Lawrence*, the TNC said that bringing food service staff and teachers together and letting them get to know each other was helpful. The TNC in *Passaic* suggested that having a continuous supply of TN materials and cooperative lunchroom activities would be helpful. In *Cleveland*, the TNC noted the program was best implemented when she met with the principal, teachers, and cafeteria staff all at one time.

6.8 COMMUNITY ACTIVITIES

Lawrence

In Phase I, the TNC set up a booth at the Taste of Prevention, an all-day activity that included

40 different community agencies. The focus of the event was making healthy lifestyle choices as well as acquainting the community with various prevention resources in the greater *Lawrence* area. The TN booth was designed to educate the community on the preparation of healthy meals. TN materials were displayed and "healthy food" samples were available for tasting. It was estimated that over 1,000 people attended the event, but no information was collected on the number of people who visited the TN booth. The TNC, however, described this activity as "very successful" and "likely to be continued in future years."

In *Lawrence*, no community activity was conducted during Phase II that fell within the pilot implementation timeframe. There were community activities that took place after the evaluation ended which are not included in this report.

Passaic

The *Passaic* community events consisted of two assemblies open to the general public, one held at each of the pilot implementation schools. The assemblies were called the Great Nutrition Adventure and included speakers and a social hour, during which various foods were displayed and made available for tasting. The first of these events was attended by approximately 150 people. Food was donated and displayed by a food vendor and a bakery, and a jazz band from the high school provided entertainment. The TNC noted that the nutrition message for this event was to eat healthy snacks that are low in fat, particularly fresh fruits and vegetables. After this event, the parent group at the school requested that the TNC make a presentation to the group at a later date.

The second assembly was held in conjunction with a book fair and was attended by approximately 450 people. A local dietitian gave a lecture and the TNC reported that the audience was very interested in the topic. The primary nutrition message was to eat less fat and more fiber. Participants at both community events included representatives from the Hispanic Information Center, parent-teacher organizations, Local Head Start Programs, and Beth Israel Hospital's Health First Program.

In *Passaic*, the community activity in Phase II was a produce fair called Team Nutrition and Jersey Fresh. Children and parents tasted fruits and vegetables and learned about their nutritional values. The nutrition message was to eat more fruits and vegetables.

Cleveland

The *Cleveland* community event was a TN Tasting Session which was held in the lobby of the downtown *Cleveland* Board of Education office just prior to a meeting of the Board of Education. The nutrition message for this event was that nutritious food also tastes good. The district also wanted to inform the community about the kinds of foods that would be available to the children at school. An additional goal of the event was to highlight the division of food services, which does not often receive recognition in the school system.

For this event, representatives from the Dairy Council, the AHA, and the Perinatal Nutrition Network provided tables with nutrition-related information. Food services staff prepared and served recipes from the new USDA cookbook, and sample recipe cards were distributed. The TNCs noted that even though this was a major undertaking because "Food Services has not done catering on such a large scale recently," the event was "very festive" and "very successful." They estimated that approximately 500 people attended, including invited guests from various community organizations, parent groups, and regional USDA personnel.

Cleveland did not conduct any specific community activity in Phase II, although the nutrition fair (see section 6.6) included parents and other community members and so was considered a community activity.

6.9 COMMUNITY PARTNERS

Lawrence

Limited information is available from these districts on developing community partnerships and partner satisfaction with their participation. However, this section summarizes information obtained from the TNCs. Building partnerships in *Lawrence* in Phase I centered primarily around the community event, a Taste of Prevention, which was organized by the Tobacco Control Board. The Commonwealth of Massachusetts has an ongoing, large-scale tobacco prevention initiative that targets youth. Part of the initiative is the active recruitment and involvement of community groups to serve as members of local coalitions and to participate in community-wide prevention activities. The Taste of Prevention was one of the activities sponsored by the local coalition. It was designed to bring together a significant number of existing community-wide prevention programs for a broad-scale educational outreach initiative.

The *Lawrence* site partnered with about 40 other community agencies and organizations in the Taste of Prevention Fair in Phase I and plans to participate in this fair again.

In Phase II, one of the key partners in the *Lawrence* site was the Cooperative Extension Services at the University of Massachusetts. A staff member from this group helped the project conduct teacher and food staff training, and provided Spanish language materials for distribution to parents at the parent events.

Passaic

In Phase I, the community partnerships developed in *Passaic* were the result of contacts initiated by the TNC. Local food vendors contributed to the community events by donating food. In addition, the TNC noted that representatives from various community agencies and organizations attended the community events (described in detail earlier in this chapter).

During Phase II, the primary community partners in the *Passaic* site were Beth Israel Hospital and M & F foods. The *Passaic* school district has been working with Beth Israel Hospital for about 5 years. During this time, someone from the Health First Program, a special program of the hospital, has visited *Passaic* classrooms and talked about healthy snacks. For Team Nutrition, the Health First coordinator collaborated with the district for the Team Nutrition and Jersey Fresh nutrition fair. Beth Israel Hospital also provided a chef for the chef demonstration of low-fat meals.

The other major partner, M & F Foods, is a primary food vendor for the school district. The President of this Company, believes that the TN program is very important. The company donated all of the food for each of the produce fairs, international food fairs, and health fairs. The company did not ask for any compensation for this effort, and the TNC estimated that each display involved about \$400 to \$500 worth of food. M & F Foods also allowed parents and children to take home whatever foods were left over on the displays.

Cleveland

Cleveland's late entrance into the pilot, and the district's administrative procedures for establishing partnerships outside of the school system created challenges for the TNCs in Phase I. However, the TNCs managed to establish partnerships with the Florida Citrus Commission, the Washington State Apple Commission, the Dairy Council, the AHA, and the

Lawrence, Passaic, Cleveland

Perinatal Nutrition Network. The late start did interfere with recruiting chefs for the school-wide events. Although interested in participating, many chefs had previously scheduled engagements that precluded their involvement.

During Phase II, community partners in the *Cleveland* site were primarily involved in the food fair. Community partners set up tables with information and food samples for tasting. Two chefs prepared stir-fry at the nutrition fair.

6.10 MEDIA EVENTS AND MEDIA COVERAGE

Lawrence

In Phase I, the community event in *Lawrence* received fairly extensive media coverage from TV stations and local newspapers. Advertisements for the Taste of Prevention Health Fair were displayed on MTA buses and in local newspapers. These advertisements included mentions of Team Nutrition. PSAs for the event were broadcast on local TV and radio stations. In *Lawrence*, there were no special media events planned for Phase II.

Passaic

Although *Passaic's* community events did not receive television or radio coverage during Phase I, they were covered by a reporter from the local newspaper. Team Nutrition was also mentioned in two articles in the New Jersey School Food Services Association's newsletter and in two articles on nutrition in a local newspaper. The TNC sent news releases to the paper and the paper sent a reporter. The *Passaic* TNC indicated that he has developed a relationship with this reporter, who now calls him routinely to find out whether there are any TN activities.

There were no specific media events in *Passaic* during Phase II. The TNC noted that local papers and other media were notified of each event taking place, but that little interest was generated. He felt that this was because the project was already "old news" in the community.

Cleveland

In *Cleveland*, Team Nutrition was written up in a monthly paper called the *Stakeholder*, which is disseminated to all public schools and to the community around the schools. One of the district staff writes a regular column for this paper, and many of her articles featured Team Nutrition. In

Cleveland, four TV stations were present at the TN Tasting Session and featured the event on the evening news.

Cleveland's Phase II media event was the food fair. The event was covered by all local television stations and a few radio stations.

6.11 LESSONS LEARNED

While the process evaluation in these three communities was less extensive than in the other four, several valuable lessons can be drawn from their experiences.

- **Involve food services staff from the start.** This involvement should encompass planning and implementation of Team Nutrition, including classroom lessons. As the *Passaic* TNC noted, they originally believed that the classroom implementation would be a separate activity and not require the involvement of food services. However, because so many of the classroom activities are oriented toward food preparation or food tasting, teachers needed materials and supplies that were not readily available. Involvement of food service staff gives them exposure to the whole TN effort, and provides an opportunity for TN teachers and food service staff to develop a relationship.
- **Examine how to integrate lessons into existing curricula.** It is important to determine, prior to implementation, how the lessons may be successfully integrated with existing academic curriculum. This may help avoid the problem of competing curricula. In the *Cleveland* and *Passaic* sites, this integration appeared to be emphasized throughout the project and to have already been established by the time of implementation. In contrast, in the *Lawrence* site, the teachers may have needed additional encouragement on the best way to do this.
- **Use materials that are appropriate for the population (i.e., Spanish-language materials).** The review of the experiences of these three sites in implementing the TN project reveals that the project was viewed very positively in the *Cleveland* and *Passaic* sites but somewhat negatively in the *Lawrence* site. Developing Spanish-language materials would be beneficial for districts similar in student population to *Lawrence*. *Passaic* also had a large number of Spanish-speaking families. The TNC said it would have been useful to have materials for parents who speak Spanish. To help alleviate problems communicating with parents, translators were available at some events.
- **Actively support the teachers.** District and/or school staff can support teachers—assembling materials, making sure that teachers have the necessary materials, and delivering them—rather than placing total or primary responsibility on teachers. This assistance can make a big difference in their effort to implement an extensive curriculum.

- **Obtaining chef participation.** It is important to be flexible in recruiting chefs for school events. *Passaic's* TNC suggested contacting chefs from local institutions such as hospitals because of the difficulty in getting a commitment from restaurant chefs and The Culinary Institute.

6.12 NEXT STEPS

Lawrence

The TNC indicated that there are several challenges to the long term success of the TN Project. These include: lack of time (because the curriculum is time intensive); lack of an on-going coordinator to supply materials and coordinate efforts; and lack of Spanish-language materials.

The TNC indicated that schools changed the way Team Nutrition was implemented in order to alleviate the time crunch for teachers and cafeteria staff in the following ways:

- Spread lessons out over the school year;
- Spread core activities out over the school year;
- Complete fewer activities per module;
- Integrate nutrition with other lessons; and,
- Provide Spanish-language materials for students and parents.

Team Nutrition continued in the pilot schools during the 1997-98 school year. The TNC reported that the teachers used the Scholastic materials. There were no formal plans to implement Team Nutrition in other schools; however, the TNC made the materials available to other schools if possible.

Passaic

The TNC anticipated the following challenges to the long term success of the TN program: the increased effort associated with incorporating Team Nutrition into more school classrooms; integrating nutrition education into the district's already crowded curriculum; and obtaining continued support from the administration, classroom teachers, and the cafeteria staff.

The TNC indicated that schools changed the way Team Nutrition was implemented in order to alleviate the time crunch for teachers and cafeteria staff in the following ways:

- Spread lessons out over the school year;
- Spread core activities out over the school year;
- Complete fewer activities per module; and
- Integrate nutrition with other lessons more often.

The TNC reported that Team Nutrition continued in the pilot schools during the next school year. In addition, Team Nutrition operated in at least 13 other schools.

Cleveland

The TNC anticipated the following challenges to the long term success of the TN program: officially incorporating Team Nutrition into the curriculum; convincing principals of the importance of the program; and providing materials.

The TNC indicated that schools changed the way Team Nutrition was implemented by spreading lessons out over the school year, and spreading core activities out over the school year. In addition, she encouraged schools to split the modules between grades.

The TNC reported that Team Nutrition continued in the pilot schools during the next school year.

CHAPTER 7: CROSS-DISTRICT SUMMARY OF TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

As described in Chapter 1, the TN Pilot Implementation Project was designed as an efficacy study. The primary goal was to assess the impact of Team Nutrition, when implemented as intended, on students' nutrition-related attitudes, motivations, self-report behaviors, and actual food choices. This report provides context for the outcome evaluation and includes a set of case studies describing how each pilot district carried out Team Nutrition. While the preceding chapters focus on individual school districts. This chapter summarizes the pilot experience across districts, noting similarities and differences where they occurred.

7.1 THOUGHTS ON NUTRITION EDUCATION IN THE SCHOOLS

Good nutrition habits are an important life skill that should be supported by school food service staff, school administrators, and teachers. Many parents also felt that it is very important that the school teach children about good nutrition.

The potential success of implementing Team Nutrition in other school districts depends on the importance given to nutrition education and the quality of school food services. In the pilot communities, there was wide spread support for both.

Prior to the start of the implementation project, Team Nutrition Coordinators (TNCs) and school administrators expressed a high level of support for nutrition education and school food service. Administrators consistently commented that nutrition education is an important task, especially for schools espousing a "healthy mind, healthy body" theme. One principal noted, "It is as important to teach nutrition as it is the basic academics – to help children form good habits that will last them the rest of their lives." While supportive of nutrition education and the school food service staff, school administrators indicated that there was room for improvement in the school meals. They frequently commented that they would like to see more low-fat meal choices and more variety of selections provided to their students. As one TNC observed, however, some of the desired menu changes compete with the very tight schedule for serving and eating lunch, as well as with the lure of the playground. Administrators and food service managers agreed that providing quality school meals takes on an increased importance for students from lower-income families. In these cases, the school's breakfast and lunch might be the only meals the students receive.

Prior to the introduction of Team Nutrition, teachers in all seven districts expressed a high level of support for teaching nutrition. In addition, nearly all teachers recognized the benefits of teaching nutrition. (See Tables 7a and 7b).

- Ninety-six percent of teachers surveyed indicated interest in teaching nutrition.
- Ninety-nine percent indicated interest in incorporating nutrition activities into their classrooms.
- Ninety-six percent indicated that the classroom is an appropriate place to teach students about nutrition.
- Ninety-two percent indicated that nutrition education in the classroom will help children choose healthier foods to eat.
- Ninety-three percent believe that teaching nutrition will help reinforce other subjects that they teach.
- Ninety-eight percent agreed that good nutrition can positively affect students' class performances.

Although teachers generally felt positively toward TN, they indicated that TN was time consuming and cut into time they needed to spend on academic subjects. In addition, they were not provided with adequate resources to teach nutrition.

Table 7a. Teacher Motivation Prior to Implementation to Phase I (Pretest Percentages): All Districts; All Implementation Grades

Motivational Items	
Percent indicating interest in teaching nutrition	96
Percent indicating interest in incorporating nutrition activities into their classrooms	96
Percent indicating that the classroom is an appropriate place to teach students about nutrition	96
N (number of teachers completing questionnaires)	(141)

Past experience in the pilot communities suggests that there is considerable variation in the level of nutrition education to which students are exposed. Many parents felt that they have enough information to teach their children about good nutrition (88%), but they also think it is essential that schools teach children about good nutrition (81%).

It is clear that significant variation in teaching nutrition occurred not only across districts, but also between schools and even among teachers within the same grade. Considerable discretion is left to individual teachers on whether or how to incorporate nutrition education into the classroom. Both the variable state of current nutrition education efforts and the value school professionals and parents place on such education provide a genuine opportunity for Team Nutrition.

Table 7b. Percentages of Teachers Agreeing With Statements Regarding the Benefits of Nutrition (Phase I Pretest Percentages): All Districts; All Implementation Grades

Potential Benefits of Nutrition Education	Percent
Nutrition education in the classroom will help children choose healthier foods to eat.	92
Teaching nutrition will help reinforce other subjects that they teach.	98
Good nutrition can positively affect students' class performances.	98
There is not time to teach more about nutrition in the classroom given all of the other demands.	41
My school district does not give me the time and resources to teach nutrition.	43
N (number of teachers completing questionnaires)	(141)

7.2 TRAINING

Training teachers to use the Scholastic materials was a beneficial component of the pilot project. However, training programs should be scheduled and developed with input from those responsible for implementation.

As shown in Table 7c, most of the teachers (87%) across the districts agreed that the training was relevant to teaching the Scholastic lessons. Fewer felt that the training improved their ability to teach the lessons (58%), and that the training was necessary for teaching the lessons (49%). In interviews, some teachers expressed the opinion that the training focused too much on teaching methods and not enough on providing them with more information on nutrition. This is consistent with the fact that the mean teacher score on a twenty point scale of nutrition knowledge was 13.3. Teachers were most likely to miss questions related to items in the "tip" of the Food Guide Pyramid and portion sizes that equal one serving. Some of the underlying

Table 7c. Teacher Opinions of Training for Implementing the Scholastic Module: All Districts; All Implementation Grades

Percent of Teachers Agreeing That:	
The training was relevant to teaching the lessons.	87
The training was necessary for teaching the lessons.	49
The training improved your ability to teach the lessons.	58
N (number of teachers completing questionnaires)	(120)

Team Nutrition concepts (e.g., there are no bad foods) were also unfamiliar and needed more discussion before teachers could incorporate such views in to their lessons.

This experience suggests that future training efforts should concentrate more on nutrition information and TN concepts. In addition, explaining the importance and nature of a teaching approach to achieve behavior change may make that aspect of the training more acceptable and effective. Finally, the opportunity to share experiences early in the implementation was judged as very valuable. For districts and schools who plan to implement TN in the future, there is now a self-training guide with an accompanying audio cassette. The TNCs point out that at least some information on the Scholastic Modules should be shared with food service staff who play an important role in supporting activities.

7.3 CHALLENGES TO INTRODUCING NUTRITION EDUCATION

Despite the general support for nutrition education, successful introduction and institutionalization of nutrition education in the classroom face a number of challenges.

The success of any communication/behavioral change program is determined by the program's ability to be seen, heard, remembered, and acted upon. Students are exposed to an increasingly diverse and complex academic curriculum, and they are bombarded with messages and advertisements that attempt to influence and inform them about health issues (e.g., tobacco, snack foods, drugs, AIDS, safety). The USDA and its partners face a significant challenge in communicating TN's messages in such a way that the students find them meaningful, relevant, and important enough to remember and modify their behavior.

Introducing nutrition education in the pilot communities presented all of the expected challenges of a real world application. The new lessons had to compete for limited class time with other subjects and standardized test preparation. For example, the teachers in one district were also implementing a new math curriculum mandated by the district. This curriculum vied with Team Nutrition for the teachers' preparation and lesson time. In addition, approximately one-third (35%) of all the teachers surveyed prior to TN agreed that there is not enough time to teach more nutrition in the classroom given all of the other demands. Similarly the most frequent suggestions for future TN implementation address this issue. They include:

- Spreading nutrition lessons and activities over the entire school year;
- Completing fewer classroom lessons and activities; and
- Integrating nutrition education with other subjects more often.

In addition, schools have limited resources to support new projects and curricula, especially on a continuing basis. Resources used on any project represent an opportunity cost, and Team Nutrition is no exception. However, this challenge can be mitigated by building partnerships in the community.

In fact, community partners are a critical component of the TN approach. They are not only a source of material support, but also provide a chance to shape the local environment in a way that reinforces the TN message. Building partnerships requires time and effort but in the pilot districts the reward was very clear. The community partners provided substantial supplies, time, and expertise. However, it was also evident that for many of the TNCs, the TN approach was their first attempt at forging such partnerships with community organizations and businesses.

Since the end of the pilot project, the TNCs have pursued other strategies to obtain support, as well. Two districts have sought special purpose state grants that can be used to buy TN material and fund events. Other districts are working hard to have their district or state legislature adopt nutrition education as a formal curriculum requirement. Once that occurs, at least some level of on-going material support is more certain.

7.4 CHALLENGES IN IMPLEMENTING MENU CHANGES TO MEET THE DIETARY GUIDELINES

The steps to school meals meeting Dietary Guidelines can take a substantial amount of time and effort for districts to implement. Achieving the goal is likely to be an incremental process that calls for change in several areas and for every level of food service staff.

Over the span of the project there were several issues that are worth noting because of their potential impact on the ability of school districts to implement and assess the desired menu changes successfully. One of these is the challenge of creating standardized recipes.¹ Depending on a district's starting place, this can be a labor intensive effort, taking some school districts several months to complete. Until this step is completed, it will be very difficult to conduct sound nutrient analyses of a district's lunch program.

¹ A standardized recipe is one that has been tested and adapted for use by a given food service operation. Such recipes specify exactly the quantity and quality of ingredients, procedures, and equipment needed. When followed they result in products with consistent nutrient content, quality, and portion size.

A second issue is the lengthy time frame required to identify, test, obtain bids and purchase new products. Testing includes determining product acceptability to students. This may involve students taste-test panels. Once a new product has been chosen, the actual purchase must be integrated into a district's procedures and schedule for selecting vendors. It is quite possible that, for any product, the process could take a year to execute.

Even with standardized recipes, the preparation of the desired food dish is not guaranteed. There needs to be an opportunity for food service staff in every capacity to be introduced to the changes and the rationale behind them. Based on observations in some of the pilot schools, it appears that some follow-up is needed. Cafeteria staff may need assistance and/or reminders to follow the recipes. Follow-up contacts also offer a good opportunity to get valuable information on student reactions to change.

Finally, conducting reliable menu analyses in a school district requires a substantial amount of information and a variety of resources. Detailed data are needed from food vendors and food service staff on item composition (e.g., fat content or salad ingredients), item form (e.g., fresh or frozen), preparation methods (e.g., baked versus fried), and serving specifications (e.g., portion size and number prepared). Getting complete and accurate information may require multiple inquiries of suppliers and changes in production record-keeping. Once the data are obtained, access to appropriate computer hardware and software, staff training on how to use the new technology, and time to enter and analyze the results are required.

The evaluation experience underscores the magnitude of the menu analysis challenge. Even with extra staff resources and a commitment by TN pilot districts to obtain the required data, it was not possible to complete a reliable analysis during the course of the study.

It is clear, however, from repeated cafeteria observations and interviews with food service staff that improvements to each district's lunch program are well underway. The changes may be very visible, like the addition of a salad bar, or may occur behind the scenes, like rinsing fat from cooked ground beef. In any case, pilot district efforts are moving incrementally to provide healthier meals and meet the Dietary Guidelines.

7.5 ACCOMPLISHMENTS

Despite these and other challenges across the districts, the pilot schools implemented most of the requirements of the pilot project. Nutrition information reached students through multiple and reinforcing channels, as the program is designed to do.

Classroom Implementation

The teachers who implemented Team Nutrition taught most of the lessons, conducted a majority of the recommended activities, and used more than half of suggested materials (see Tables 7d, 7e, and 7f).

On average, teachers taught more than seven of the eight or nine required lessons for each module in both phases. The average duration per lesson taught, across modules, was about 2 hours. Altogether, TN students were exposed to an average of 14.4 hours of TN lessons in Phase I and 16 hours in Phase II.

Table 7d. Classroom Implementation of Scholastic Module: All Districts; By Module

	Module 1 (Pre-K & K)		Module 2 (Grade 1-2)		Module 3 (Grade 3-5)		All Modules	
	Phase		Phase		Phase		Phase	
	I	II	I	II	I	II	I	II
# of Scholastic lessons (per module)	9	9	8	8	8	8	NA	NA
# of Sections/Classes (per module)	315	354	343	399	413	345	1071	1098
Avg. # of Lessons Taught²	7.5	7.9	7.1	7.7	7.1	7.5	7.2	7.7
Avg. Planning Time Per Lesson Taught (Hrs) ^{1,3}	1.4	0.9	1.3	1.3	1.4	1.4	1.4	1.2
Avg. Duration Per Lesson Taught (Hrs) ^{1,3}	1.6	1.8	2.2	2.3	2.2	2.1	2.0	2.1
Cumulative Duration Per Class (Hrs)²	12.0	14.4	15.5	17.4	15.3	15.9	14.4	16.0

¹Hours reflect time reported by teachers divided by 60 minutes.

²Averages reflect cumulative totals divided by the number of teachers/sections.

³Averages reflect cumulative totals divided by the number of lessons taught in each module.

Overall, teachers using Modules 2 and 3 conducted approximately 60 percent of the recommended activities in both phases (see Table 7e). Teachers noted that students liked interactive activities such as estimating and measuring serving sizes, maintaining a food diary, and sorting foods according to the Food Guide Pyramid. Activities in the beginning of lessons (e.g., Getting Started and Activities 1 and 2) were used more often than those introduced later in the lessons. Some activities were used much less often than recommended. These include Home Connection, Wrap It Up, and Taking it Further, which were conducted less than half as often as recommended. There were modest changes over time in total activities conducted and the activities selected.

**Table 7e. Average Number of Times Activities Were Conducted Per Class:
All Districts; By Module¹**

Lesson	Module 2 (Grade 1-2)			Module 3 (Grade 3-5)		
	Recommended/ Available	Conducted		Recommended/ Available	Conducted	
		Phase			Phase	
		I	II		I	II
Getting Started	8	6.0	7.2	8	5.5	5.5
Activity 1	8	6.8	6.9	8	6.8	6.5
Activity 2	8	6.6	6.4	8	6.4	6.5
Activity 3	2	1.3	0.9	2	1.3	1.5
Lunchroom Link	8	2.6	2.4	4	2.6	2.2
Home Connection	7	3.5	2.8	6	2.9	2.7
Exercise Connection	0	0.4	0.3	8	0.5	0.3
Wrap It Up	8	4.0	4.2	8	2.7	2.5
Taking It Further	8	2.0	1.5	8	1.7	1.0
Total Activities	53	33.1	32.5	53	30.8	29.1

¹Module 1 does not have comparable activities as do Modules 2 and 3; therefore, it was not included.

Although teachers of Modules 2 and 3 did not use the materials quite as often as recommended, they did use them about two-thirds of the time across phases (see Table 7f).

**Table 7f. Average Number of Times Materials Were Used Per Class:
All Districts; By Module**

Material	Module 2 (Grade 1-2)			Module 3 (Grade 3-5)			
	Recommended/ Available	Used		Recommended/ Available	Used		
		Phase				Phase	
		I	II			I	II
Parent Information Sheets (reproducibles)	7	5.3	4.9	7	4.4	4.3	
Student Information Sheets (reproducibles)	8	5.1	5.4	7	5.9	5.8	
Student Magazine	2	1.6	1.5	6	3.8	4.2	
Video	4	2.2	1.8	5	3.2	2.4	
Total Materials	21	14.2	13.6	25	17.3	16.8	

School and Community Education Activities

The pilot districts showed a great deal of creativity in planning and conducting a variety of school-wide and community nutrition events that supported the Team Nutrition messages. Every district sponsored or participated in a community-wide event that attracted from 100 to 1,000 participants.

The most popular activities were those that involved tasting different kinds of foods. Examples included Cultural Foods Week, Fruit and Vegetable Weeks, and Fat Facts Week.

There were a variety of school-wide and community nutrition events that supported the messages emphasized in the classroom curriculum. Examples of activities used in many of the districts included taste tests, cooking demonstrations from visiting chefs, plays written and performed by students, and nutrition fairs for the community.

Some district distinctions were seen, as summarized in Table 7g. For example, Vacaville activities were characterized by several school-specific events, whereas other districts tended

Table 7g. Sample of School and Community Events by District, Intended Audience, and Phase

District/Activities	Audience	Phase
Des Moines		
Chef's Breakfast and Snack – chefs visited the schools and prepared foods while discussing nutrition and fun food facts.	Students	I & II
Fruits, Vegetables and Grains Weeks – students sampled fresh fruits and vegetables each day for a two-week period. In Phase II, one week was devoted to grains and one to fruits.	Students	I & II
Capitol Square, downtown Des Moines – displays created by students from implementation schools and food industry associations were exhibited in an office building during lunch hours. Students, parents, and teachers staffed the displays.	Community	I
Grocery Store Displays – four grocery stores hosted displays with games made by students and foods provided by community partners. Displays were staffed by community partners, a teacher or principal, and a few students.	Parents and community	II
Hamblen County		
Breakfast with the Stars – high school athletes visited elementary schools and emphasized the relationship between sports and nutrition and the importance of breakfast. Also, local celebrity DJs broadcast live from the school cafeteria.	Students and parents	I & II
"The Keys to Good Nutrition Land" – a skit written and produced by one of the fourth-grade teachers which was based on the Food Guide Pyramid and presented at a PTO meeting and an all-school assembly.	Students, parents, and teachers	I
Cowboy Dan -- a singing cowboy with a 30-minute show on nutrition and the Food Guide Pyramid.	Students	I
Egyptian "Pyramid Builder" -- a performance which explained about eating foods from the Food Guide Pyramid.	Students	II
Tulsa		
Bread in a Bag – students observed wheat being ground and then prepared a recipe for making bread. After cafeteria staff baked the bread, students tasted it.	Students	I & II
Fat Facts Week – a week of activities including preparing posters of favorite snack foods with bar graphs on the percentage of fat in each snack, displaying nutrient analysis of the menu items, and inviting parents to eat lunch with the students.	Students and parents	I
Fruits, Vegetables and Grains Tasting Party – a chef prepared foods for tasting and provided fun facts about different fruits, vegetables, and grains. Due to success in Phase I, the activity was expanded to designate separate weeks for fruits and vegetables in Phase II.	Students	I & II
Cultural Foods Week – students planned menus representing Japanese, Italian, American, and Native American foods which were prepared and served by cafeteria staff.	Students	II
Vacaville		
"Garden Choices" Salad Bar Introduction – opened in the schools during Phase I. The bars included various salad items, fruits, and trail mixes from which students could select to accompany or replace the regularly offered entrees. Each school had an open house to announce the opening of the bars.	Students, parents	I
Olympic Event – the district sponsored an Olympic celebration to coincide with the excitement generated by the international Olympics. A Team Nutrition training meal was provided in the schools participating. Also, Team Nutrition Time Capsule entries were displayed.	Students	I
Mobile Dairy Classroom – a farmer brought a cow to the schools and talked to the children about every aspect of the processing of milk.	Students	II
"Out of the Frying Pan" – an original play performed by a local theater company at the implementation schools. Revisions were made to the play before the second performance to make clearer the connection to TN themes.	Students	II

to replicate activities across treatment schools. Hamblen County used a variety of local celebrities, including high school athletes, a singing cowboy, and the chef from Dollywood. Tulsa made strong use of the cafeteria as a learning lab, providing students with hands-on activities such as developing menus and baking bread. Des Moines staged Team Nutrition activities in the downtown corridor and in neighborhood grocery stores.

School-wide activities helped to foster a relationship between cafeteria staff and teachers.

The importance of teamwork was pervasive in the comments of the teachers, food service staff, and administrators. The teachers consistently recognized the food service staffs' contributions and the food service staff felt well supported by the TNCs. Most people said that the activities improved the relationship between food service staff and teachers. The food service staff not only conducted cafeteria tours and provided food samples, information, and other supplies for various classroom activities, but many cafeterias also operated as nutrition learning laboratories for students. In Phase II, several cafeteria managers even went into classrooms to talk to the students.

While TN did help to build a relationship between teachers and food service staff, teachers did not necessarily think the cafeteria activities were effective. According to the teacher survey, only half of the teachers in Phase I indicated that the lunchroom links were effective in supporting nutrition education efforts. In Phase II, only one-third thought they were effective.

Improvements to School Lunch Service

District food service staff have been actively involved in creating healthier menu choices for some time.

Even before USDA announced the TN pilot implementation program, the districts were taking steps to alter food preparation procedures to produce healthier, low-fat meals. The changes included using less salt and butter and baking foods instead of frying them. In addition, most districts had conducted some assessment of their lunch menus.

By the end of Phase II, all of the pilot districts had made changes to their menus to meet the

USDA Dietary Guidelines. Some of the steps included eliminating or limiting frying, decreasing use of fats in vegetables, and rinsing ground beef. All districts had also instituted training that focused on changes in food preparation, such as using seasonings instead of fat to enhance flavor.

Community Partners

All of the pilot districts were successful at engaging community partners to participate in school- and community-wide events. Community partners assisted in the implementation of Team Nutrition by donating time, food, and educational materials.

A wide range of types of outside organizations were involved, including chefs, Extension agents, hospitals, local health departments, wholesale food vendors, health associations, grocery stores, and community service organizations. Outreach to community partners was a relatively new activity for some of the TNCs, but they found that organizations were willing to participate if provided well-defined roles and responsibilities. Assistance sometimes came from nontraditional allies such as insurance companies and professional food industry associations. Community partners reported positive experiences with Team Nutrition. For many, the partnership with schools was a good fit with their organizations' goals and objectives.

Chef events were held in almost every pilot district. In one district, chefs came to implementation schools to prepare a low-fat snack for fourth-graders. In another district, a local chef worked with food service staff to prepare a new USDA recipe for chicken stir-fry and discuss different seasoning techniques. These events were very successful, but required working around chefs' busy and unpredictable schedules. TNCs noted that long-range planning and having a back-up chef on hand helped to avoid the problems associated with cancellations. One pilot district found it easier to coordinate with the food manager of the local hospital. Another district found that working with chefs-in-training at a vocational school was a good experience. Since chef events were often the focus of media attention, this served as an incentive for chef participation.

In general, the community partners were satisfied with their partnership in the TN effort and would recommend that other organizations and businesses become involved.

Media Events and Media Coverage

Although working with the media was a relatively new experience for the school districts, almost every district generated TV and newspaper coverage for the school-wide and community activities.

The districts planned media events to coincide with school-wide or community events, not as separate activities. The evaluation posed a constraint here as TNCs were instructed to limit TN publicity that might affect parents and students in comparison schools. Some TNCs developed strategies for successful communication with media contacts. For example, one suggested writing up news releases and presenting them to her contact. Another suggested writing down her talking points before an interview so that she did not forget important things. Other ideas might include contacting sources via computer, taking a media workshop, and involving district staff who already have media contacts.

At least two-thirds of the fourth-graders in each of the intensive process districts recalled seeing the Disney characters, Pumba and Timon, talk about good nutrition in television PSAs. About half of the parents in each phase had heard about Team Nutrition, most often by newspaper in Phase I and through television in Phase II.

Parent Awareness and Participation

Involving parents represented both a goal of, and a challenge to, Team Nutrition. The efforts to reach parents through the media, school-wide and community events, and take-home materials appear to have been successful.

In both phases, over 90 percent of the fourth-grade parents surveyed were aware of some TN event, especially classroom events. Many parents reported conducting nutrition activities in the home (77% in Phase I and 83% in Phase II). Drawing parents to the school or community events proved more difficult, although parent participation increased in all districts over time (see Table 7h). The range of participation in these school and community activities varied across districts. In Phase I, parent participation ranged from 18 to 31 percent while in Phase II it was between 22 and 48 percent. TNCs noted several factors they think affect such

involvement – language barriers, parent work schedules, and strategies used to advertise events.

Table 7h. Parent Awareness of Team Nutrition: Intensive Process Districts; Fourth-grade Only

Percent of Fourth-grade Parents Reporting They:	Phase	
	I	II
Heard of Team Nutrition through any medium	47	52
Aware of any TN event	92	91
Participated in a TN event in child's school	23	33
N (number of parents completing questionnaires)	(567)	(493)

7.6 PERCEPTIONS/OPINIONS OF TEAM NUTRITION

Teachers, food service staff, and TNCs expressed general satisfaction with the TN Program despite the time constraints, extra work, and other challenges. School staff and parents generally agreed that Team Nutrition was a positive experience for students.

Over 80 percent of teachers reported that they were satisfied with the Scholastic materials, and that the materials were developmentally, educationally, and culturally appropriate for their students (see Table 7i). One third of teachers indicated that the Scholastic materials were better than other nutrition teaching materials they have used, and many more indicated that they would teach more about good nutrition if they could use the Scholastic materials (81% in Phase I and 77% in Phase II). Finally, although approximately one-half of the teachers expressed concerns about the amount of time required to plan and carry out lessons (see Table 7i1), this number declined in Phase II even though the evaluation still posed tight time constraints.

**Table 7i. Teacher Attitudes Toward Scholastic Materials (Posttest Percentages):
All Districts; All Grades**

	Phase	
	I	II
Percent of Teachers Who Reported That They Were Satisfied With Scholastic Materials Overall	88	83
Percent of Teachers Who Agree or Strongly Agree That:		
The Scholastic materials were appropriate for the developmental level of the students in my class.	90	84
The Scholastic materials were appropriate for the educational levels of the students in my class.	88	84
The Scholastic materials were culturally appropriate for the students in my class.	96	92
The content of the Scholastic materials did provide sufficient background for my nutrition-related teaching needs.	63	75
The classroom activities met my nutrition-related teaching needs.	64	78
The activities suggested in the Scholastic materials were appropriate for my classroom.	77	78
Having the Scholastic materials makes it easy to teach about nutrition.	81	84
I will teach more about good nutrition in the future if I can use the Scholastic materials again.	81	77
The Scholastic materials are better than other nutrition teaching materials I have used.	96	68
N (number of teachers completing questionnaires and rating Scholastic materials)	(110)	(132)

Table 7i1. Teachers' Attitudes Toward Time to Teach Scholastic Materials

	Phase	
	I	II
Percent of Teachers Who Agree or Strongly Agree That:		
The time required to prepare to teach the Scholastic lessons was reasonable.	52	65
The time required to teach the Scholastic lessons was reasonable.	49	58

In follow-up interviews, teachers, food service staff, and TNCs were positive about Team Nutrition. Overall, the teachers were very positive about the core events and activities and believed that they successfully conveyed the intended nutrition messages and engaged the students' interest. The TNCs reported that, given competing demands for resources, they would be more selective about which activities to pursue in the future. Teachers noted that TN had an impact on student behavior, for example, students began to read labels, were interested in the ingredients in their food, and knew about the different food groups. In both phases, food

service staff indicated that they felt involved with the TN program and expressed confidence in its effectiveness. Many remarked that they heard students discussing nutrition issues in the cafeteria line. Parents were primarily involved in TN through the take home materials. Most parents found the take home materials to be interesting, important, and fun. Many indicated, however, that there was not enough time to complete the activities. Finally, most TNCs were satisfied with Team Nutrition and felt it was valuable for the students.

7.7 LESSONS LEARNED

Every district faced implementation hurdles—some were common to all districts, others were unique. Hard work made the pilot implementation successful, but the roll-out of Team Nutrition will be smoother if districts heed the lessons learned by the pilot project districts.

Not every lesson learned will be applicable for every district, but knowing what other districts have encountered should facilitate future implementation. Based on observations and interviews in the pilot communities, the following consistent themes appear to facilitate successful implementation:

- **Encourage teamwork.** Involve teachers, principals, food service staff, the administration, and community partners in planning before implementation to generate awareness and encourage their sense of participation in decision-making for the project. Enthusiastic support will help create a very successful program implementation. Continue to keep everyone involved in decision-making and planning throughout the project. Teams that consist of representatives from the food service and curriculum departments can divide the workload and bridge any gaps that may exist between the two departments
- **Focus attention on parent involvement strategies.** Greater exploration and utilization of parental involvement are needed to enhance parental participation in nutrition-related activities with their children and improve their overall knowledge of healthy nutrition habits. Some examples include: involving parents in planning nutrition activities; increasing parent participation in planning nutrition activities and on nutrition advisory councils; working through the PTA to increase parent awareness; and having students write personal invitations to parents for specific events. In addition, making Spanish-language materials available may increase parental involvement in Hispanic households (especially at home, where parents tend to be more involved than at school or community events).

- **Provide training or technical assistance to TN coordinators.** If possible, provide training or technical assistance on media relations to the district representatives interested in implementing Team Nutrition. Also, building community partnerships and engaging the community in this type of project requires knowledge and skills related to coalition building and how to approach potential partners.
- **Allow enough time for planning and development activities.** It is important to determine, prior to implementation, how the nutrition lessons may be successfully integrated with other core subjects and how responsibilities can be shared across teachers, food service staff, parents, and community partners. Time is also needed to establish communication links between teachers and food service staff, as well as to build community partnerships. Spreading implementation over the whole school year will help to alleviate these time management concerns.
- **Add physical activity component.** Recognize the connection between health, food consumption, and physical activity, and support development of a physical activity component to link to Team Nutrition as recommended in the Scholastic modules. For example, the district supervisor of physical education in Iowa met with elementary school gym teachers to promote this connection. As a result, students in TN classes were introduced to a variety of information and activities involving physical exercise. The benefit of doing so creates a connection with established parts of the curriculum and is an incentive for students.
- **Capitalize on established networks, contacts, and events.** Recognize that any current involvement in professional and community organizations can assist in leveraging resources and generating ideas in support of school-wide health initiatives. For example, one TNC's participation on a state-wide nutrition committee resulted in its support of TN. In addition, support may be available from other educational institutions through student internships or class projects.
- **Provide coordination and resources for obtaining relevant background information and classroom materials and supplies.** Schools and districts should be prepared to provide assistance to teachers in assembling materials and supplies for classroom lessons. Teachers need resources and materials that will provide them with background information on nutrition, particularly if they have not taught nutrition before. In the pilot communities, TNCs provided this support to teachers.
- **Be flexible.** In schools where teachers team-teach according to specific academic areas, it may be more effective if the teachers select specific activities from the lessons that are relevant to the subjects they teach rather than attempt to teach entire lessons. This may help to minimize any concerns about sufficient time for teaching the basic academic subjects.

Along with the suggestions above, maximum effectiveness of Team Nutrition would be observed where it is "institutionalized" in each district. This means getting a commitment at the district level to support and coordinate the program. In addition, it means establishing an ongoing funding source to support the program. Including nutrition as an approved part of curriculum is one means of ensuring that time and resources are devoted to the curriculum. Identifying a district coordinator and school contact is essential to ensure coordination between the schools and the district.

Toward this end, USDA is working through the State Departments of Education to integrate Team Nutrition into schools. This involvement at the state level is key to institutionalizing the program.

APPENDIX A: DESCRIPTION OF SCHOLASTIC MODULES

MODULE 1: FOOD AND ME—PRE-K AND KINDERGARTEN

This module was developed to provide an overview of nutrition and to help young children adopt better eating behaviors including eating a variety of foods; increasing their fruit, vegetable, and grain intake; and choosing more low-fat foods. Each of the nine lessons begins with the children's own experiences with food and then builds onto that knowledge by providing a basic understanding of why and how better food choices will help them grow and learn. Each teacher's kit includes the following for integration into the lessons:

1. Student Magazines. A class set of magazines called *I Wonder* with nutrition-based stories.
2. Family Newsletter. *Take Out*, a newsletter for parents, introduces *Food and Me* and the Food Guide Pyramid, and offers tips on healthy eating.
3. Parent Reproducibles. There are 12 parent pages to photocopy and send home with students. These pages include ideas for parent/child activities designed to complement each lesson.
4. Home Link. Parent reproducibles suggest nutrition activities that children can do at home with their parents.

The following is a list of activities for each lesson in Module 1, along with a short description of each:

Lesson 1: All Kinds of Foods Help Us Grow and Learn!—Students learn the importance of a variety of foods and are introduced to the Food Guide Pyramid.

- Identifying the Foods We Eat—Students learn about foods that help them grow and learn. They also learn that they need to eat more of some foods than others to be healthy. Students name different foods they eat for breakfast, lunch, dinner, and snacks and review them in class.
- Math Connection—Students graph the Food Guide Pyramid using photographs or drawings of different foods.
- What Helps My Body Grow—Students trace their bodies on a large piece of paper and draw their favorite foods.
- Literature Connection—Students listen to teacher read *Bread and Jam for Frances* and discuss the story.

- What's in My Taco?—Students learn about foods from different groups that may be contained in one dish. The class has a make-your-own-tacos lunch and talks about all the different foods in tacos.
- Home Link—Parents are introduced to the guidelines for using the Food Guide Pyramid to help their families have a healthy diet.

Lesson 2: Where Do Foods Come From?— Students learn where foods come from and the role food plays in the bigger picture of life on earth.

- Find the Plant Parts—Students review parts of a plant using a flowering plant to illustrate the roots, which grow underground; the stem, which supports the plant; the leaves along the stem; and the flower at the top. Students discuss their favorite fruits and vegetables and learn that they can eat the seeds of some plants. Students take a trip to the market or look at examples of foods from each part of the plant; roots, stems, leaves, fruits, flowers, and seeds; in the classroom.
- Social Studies Connection—Students visit an orchard, dairy, or other farm where food is grown or produced. Later, they write a group thank you letter to the host and let students tell what they learned.
- Literature Connection—Students listen to teacher read *Little Red Hen* or *Pancakes, Pancakes!* They learn about the process of grinding wheat into flour to use in cooking and baking.
- Tossed and Turned—Students examine parts of plants used in a salad and discuss how they grow and similarities and differences between them. Later, the students make a salad using the plants.
- What Foods Come From Animals—Students listen to the teacher read *Pancakes for Breakfast*. The teacher draws pictures of a cow, chicken, and fish and then students name foods they know come from animals.
- Art/Writing Connection—Students create a mural of plants and animals that grow on a farm. Later have students help write a few sentences describing the scene to display with it.
- Home Link—Parents and students garden together and learn about the different plant parts we eat.

Lesson 3: We Can Grow a Garden—Students learn about what plants need to grow, and learn about growing their own food in a garden.

- Start With a Seed—Students remove seeds from a few foods and compare for shape and size. Students learn that soil, water, and sunlight are needed to help plants grow.
- Literature Connection—Students listen to teacher read *How a Seed Grows* and then plant bean seeds in an egg shell with soil and water and place in sunlight. After several days, students can see the changes in the seeds as they grow roots, stems, and then into plants.

- Grow a Salad Garden—Students plant radish and leaf lettuce seeds and care for them as they grow.
- Ecology Connection—Students make a compost pile and learn how to care for the earth and their own bodies by recycling garbage to create rich soil so new plants can grow.
- Music and Movement Connection—Students sing a planting song and pantomime the actions.
- Grow a Pizza Garden—Students plant and care for tomatoes and herbs to be used on a pizza. They can also plant green peppers, onions, or other vegetables.
- Literature Connection—Students listen to teacher read *Little Nino's Pizzeria* and discuss other foods that are in pizza.
- Science Connection—Students can also plant other gardens such as an ABC garden (avocados, beans, carrots, etc.), a color garden (yellow squash, strawberries, etc.), or a Halloween garden (pumpkins).
- Home Link—Parents and students garden together and learn about the different plant parts we eat.

Lesson 4: All About Foods and Seasons—Students learn how to recognize a variety of foods and their changing forms throughout the seasons.

- Take a "Field Trip"—Students take a trip to a nearby strawberry, apple, or pumpkin farm or orchard to see how the fruit grows and learn about when fruit is ripe for picking.
- Food Detectives at the Supermarket—Students play detectives when they take a trip to a supermarket to learn as much as they can about all the different foods that people eat.
- Dramatic-Play Connection—Students set up their own supermarket in their play area using clean, empty boxes, containers, and cans that parents contribute.
- Have a Tasting Party—Students continue to learn about seasonal foods and learn about cooking and preserving them.
- Literature Connection—Students listen to the teacher read *Apples and Pumpkins* in preparation for a field trip to a farm or orchard or in place of a trip.
- From Farm to Table—Students learn about the different forms foods can take such as fresh, frozen, canned, etc. and discuss how they think the different products are made.
- Writing Connection—Students create a class picture book about growing foods from planting the seeds to harvesting the ripe vegetables and herbs to enjoying a homegrown salad or pizza toppings.

- Home Link—Parents help their families try new foods and eat a variety of foods through tasting activities, food shopping tips, and understanding the new nutrition facts label.

Lesson 5: Using Our Senses To Learn About Food—Students learn about both new and familiar foods using their senses.

- The Nose Knows!—Students name foods that have strong smells. Later, students are blindfolded and given the opportunity to try to recognize foods that have been put on plates through smelling, feeling, and tasting.
- Social Studies Connection—Students can take a trip to a bakery to smell fresh breads, rolls, etc. and describe the smells.
- Colorful Foods—Students are encouraged to try as many different color foods as possible. Teacher declares each day a different color and students try to eat as many foods of that color as possible.
- Writing Connection—Students write a silly story about the loudest vegetable in the world.
- That Noisy Vegetable Group!—Students conduct a sound test comparison of fresh vegetables to determine the loudest and quietest ones and have the opportunity to sample vegetables in their most nutritious form.
- Puppet Connection—Students make stick puppets of the characters in their story about the noisiest vegetable in the world and act out the story for family members.
- Home Link—Parents introduce foods from different cultures through literature and cooking activities and explore their own food heritage.

Lesson 6: The Wonderful World of Food—Students learn about new foods and their cultural similarities and differences.

- Bread-Bread-Bread—Students learn about different breads eaten around the world and listen to the teacher read the story *Bread, Bread, Bread*. The students discuss what the characters in the story are eating with their bread and what they like to eat with bread. Later, the students have a bread-tasting party.
- Cooking Connection—Students work in small groups to make cornbread and learn that it falls into the bread group on the Food Guide Pyramid even though corn is a vegetable.
- Art Connection—Students bring in recipes of their favorite rice dish from home and the class makes a rice cookbook with illustrations to accompany the recipes.
- Everybody Cooks Rice—Students listen to the teacher read *Everybody Cooks Rice* and learn that many people from many cultures like rice.
- The Milk Makers—Students listen to the teacher read *The Milk Makers* and then discuss and make a list of their favorite foods or beverages made with milk.

- Cooking Connection—Students make a milk and yogurt shake.
- Home Link—Parents explore food from around the world by reading books with their children.

Lesson 7: Let's Celebrate With Food!—Students explore foods in the context of celebrations and learn to make food choices.

- A Birthday Basket for Tía—Students listen to the teacher read the story *A Birthday Basket for Tía* and learn about how a Mexican-American family plans a birthday and then discuss what makes Tía's party different from parties of their own. The students learn that people in different families have different birthday customs, but that special foods are usually a part of every family's way of celebrating.
- Dramatic Play Connection—Students act out having a birthday party in their play area with wrapping for presents, birthday accessories, and pretend foods they would serve at a birthday party.
- Thanksgiving Day—Students listen to the teacher read the story *Thanksgiving Day* and learn about how Thanksgiving came to be. Students discuss how their own families celebrate Thanksgiving and the different kinds of food they eat. The class may prepare some of the recipes for a class Thanksgiving feast.
- Social Studies/Literature Connection—Students listen to the teacher read the story *My First Kwanza* and learn about the African-American harvest festival of Kwanza. Students who celebrate Kwanza are invited to share with the class about special foods they serve and other holiday customs they follow.
- Stone Soup—Students listen to the teacher read the story *Stone Soup* and then prepare their own stone soup using the recipe from the book or the one described in the lesson which includes vegetables and barley.
- Language/Sorting Skills Connection—Students follow up the stone soup activity by making vegetable posters using cut out pictures from magazines and catalogs.
- Home Link—Parents and students use their senses to discover new foods and to look at familiar foods in new ways.

Lesson 8a: Food Is Fun To Make and Eat!—Students learn about both new and familiar foods using their senses.

- Fruit Dippers—Students (2 to 3 year olds) are encouraged to try new fruits by dipping different fruits in a variety of toppings or flavorings and discussing how it tastes.
- Literature Connection—Students listen to the teacher read the story *What Do I Taste?* as a follow up to the fruit dippers activity.
- Rice is Nice!—Students (3 to 4 year olds) prepare rice pudding and discuss the difference between the brown rice from other kinds of rice they have eaten and are reminded of the story *Everybody Cooks Rice* from the earlier lesson.

- Science Connection—Students observe how rice expands in size instead of shrinking like some foods because of absorbing the liquid.
- Home Link—Parents create "good for you" snacks with their children and learn simple imaginative activities for rainy days or long car rides.

Lesson 8b: Food Is Fun To Make and Eat!—Students learn about both new and familiar foods using their senses.

- Delicious, Nutritious Whole-Wheat Scones—Students (4-5 year olds) prepare scones using whole wheat flour and then taste them for a snack.
- Literature Connection—Students listen to the teacher read the story *Walter the Baker* while eating their scones and discuss how Walter's rolls are like their scones.
- Let's Plan a Picnic!—Students (5-6 year olds) plan a picnic menu to review what they've learned about the Food Guide Pyramid and then prepare the picnic.
- Literature Connection—Students listen to the teacher read stories about other picnics.
- Home Link—Parents create "good for you" snacks with their children and learn simple imaginative activities for rainy days or long car rides.

Lesson 9: Food Gives Us Energy To Move!—Students learn that food choices they make give them energy to move, and exercise makes their muscles stronger.

- What Give Us Energy?—Students talk about what makes them feel good inside and out, review which foods children need to eat every day, and suggest other things that help them stay healthy. Students describe how they feel when they do certain exercises or move in other ways and learn how food gives them the energy to move, and moving uses the muscles in their body, and helps them grow strong
- Pop, Pop, Pop—Students act out how kernels of corn change to light-as-air popcorn by curling up into little kernels on the floor and then expanding until they jump and hop about as the teacher describes how the heat from the popcorn popper is getting hotter and hotter until they pop.
- Jiggle, Jiggle, Jiggle Like Gelatin—Students have a gelatin snack made with fruit juice and fresh fruit and discuss how the gelatin moves as they eat it.
- The Kitchen Band—Students make a band using pots, pans, metal and wooden spoons, etc. as instruments.
- Sing About How Food Grows—Students sing a song that reviews many of the concepts about how food grows and where it comes from.

MODULE 2: FOOD TIME—GRADES 1 AND 2

This module aims to empower first and second grade students to choose a variety of foods; eat more grains, vegetables, and fruits; and construct a diet lower in fat. Each of the eight lessons engages the students' interest with a start-up section, followed by a few activities, and a wrap-up section. Two additional activities, *Lunchroom Link* and *Home Connection*, are included in each lesson to expand learning into the cafeteria and students' homes. Each teacher's kit includes the following for integration into the lessons:

1. Teacher's Guide. The *Food Time* curriculum is a menu of engaging activities. Teachers can select the activities in each of the eight lessons that will work best for their students. The lessons have been organized into three subconcepts, which appear in a recommended order. The order can be altered to meet a teacher's lesson plans or teaching needs, but for maximum effect, lessons in one subconcept should be completed before moving on to the next.
2. Student Reproducibles. A booklet of recording sheets to be photocopied and distributed to students along with each lesson.
3. Student Magazines. A class set of magazines that introduce students to *Food Time* with simple activities and features.
4. Family Newsletter. *Take Out*, a newsletter for parents, introduces *Food Time* and the Food Guide Pyramid, and offers tips on healthy eating.
5. Parent Reproducibles. On the back of the *Food Time* poster there are eight parent pages to photocopy and send home with students. These pages include ideas for parent/child activities designed to complement each lesson.
6. Video. The *Food Time* video is hosted by Buddy, a taste bud, who introduces children to the message of healthy eating with songs and jokes. The video consists of three main sections, each highlighting activities that children will be encouraged to recreate in lessons. The first features children planting and growing foods at school. The second documents chefs visiting a school cafeteria and preparing foods for children. The third shows children choosing foods at a supermarket.
7. Posters. Two colorful, motivational posters are included to complement the *Food Time* activities.
8. Student Portfolio. Because students will be recording their sensations, opinions, and discoveries throughout the curriculum, it is recommended that the teachers have the students keep a *Food Time* portfolio where they can store all their work.
9. Home Connection. Parent reproducibles suggest nutrition activities that children can do at home with their parents.

The following is a list of activities for each lesson in Module 2, along with a short description of each:

Lesson 1: Food Grows—Students add more fruits, vegetables, and grains to their diets and expand the variety of foods they eat.

- Getting Started—Students receive the Food Time magazine and discuss the foods on the cover and where they were grown.
- Activity 1: It's Food Time!—Students view the *Food Time* video and share stories about tasting different foods.
- Activity 2: Make A Food Origin Poster—Students draw or write down foods they like and where they come from on a reproducible. Then the students divide into teams, select a food whose origins they want to trace, and make posters illustrating the journey their food has to make to get to the table.
- Lunchroom Link—Food service staff are introduced to the students, and together they discuss food preparation.
- Home Connection—Reproducibles are sent home to parents to provide information about nutrition and about keeping a container garden as a family.
- Wrap It Up: Watch Food Grow—Students plant mung beans in a glass jar and watch them grow over a few days. Later, they identify the parts of seedlings such as roots and stems.
- Taking It Further—Students set up a compost jar filled with soil, pieces of raw vegetables, cooked vegetables, plastic, and metal so that they can see which elements return to the soil and which ones do not.

Lesson 2: Fabulous Fruits, Various Vegetables—Students continue to add more fruits, vegetables, and grains to their diets and expand the variety of foods they eat.

- Getting Started—Students learn that fruits and vegetables are plants that can be eaten. They learn that some grow on bushes or trees while some are close to the ground or underground, and that most fruits have seeds. Students discuss clues for determining whether something is a fruit or a vegetable.
- Activity 1: Keep a Fruit and Vegetable Diary—Students learn that fruits and vegetables are rich in vitamins, minerals, and fiber which help their bodies grow. To discover how many fruits and vegetables the students eat, they keep a diary using Reproducible 3 in which they will draw or write entries of what they eat over five days.
- Activity 2: Let's Eat a Variety—Students are asked to come up with reasons to eat more, and a greater variety, of fruits and vegetables. They can set goals and write them in their diary. The children can share their goals with their families and figure out a way to meet them.

- Lunchroom Link—Students and food service staff complete a survey to learn which are the most popular fruits and vegetables.
- Home Connection—The teacher explains to the students the activities they can do with their parents related to the different parts of plants they can eat.
- Wrap It Up: Grow a Party—Students work in teams to plan a fruit and vegetable tasting party. Children bring in foods from home or find them in the school lunchroom. Reproducible 4 is distributed and children taste the foods other teams have prepared and keep a tally of the number of types of fruits and vegetables they tried. Students write down words to describe the taste, feel, and sound, and then write stories about their experiences.
- Taking It Further—Once the children have completed their diaries, they can write stories about how many fruits and vegetables they ate. After the tasting party, students can take left over fruits or vegetables to try and grow more plants from their seeds.

Lesson 3: All Aboard the Grain Train—Students continue to add more fruits, vegetables, and grains to their diets and expand the variety of foods they eat.

- Getting Started—Students discuss what they had for breakfast and place the foods in categories of plant-based, animal-based, or don't know. The students learn that many of the foods in the don't know category are grain products or foods made from grains.
- Activity 1: Create a Grain-to-Bread Poster—Students listen to the teacher read the story *The Little Red Hen* and/or *Pancakes, Pancakes* and learn about the steps in the bread-making process. Later, the students make a poster that explains how people grow grain, harvest it, and make it into flour. Then they brainstorm about all the foods that are made from grains and draw pictures of the grain-based foods as a border to go around their grain-to-bread poster.
- Activity 2: Make Your Grain Train—Students learn to think of grains as fuel foods that provide them with the energy to play, work, and grow big and strong. Using one of the reproducibles, the students imagine they are a train and have to take enough fuel on board to get them through the day by keeping track of the grains they eat beginning with the next morning.
- Lunchroom Link—Students analyze the lunchroom menu to see how many grain-based foods it contains.
- Home Connection—Students discuss the importance of physical exercise and are given one of the reproducibles to take home which suggests ideas for exercises the children can do at home with their parents.
- Wrap It Up: Everybody Eat Grains—Students listen to the teacher read *Everybody Cooks Rice* and *Bread, Bread, Bread* which explain how rice and bread are prepared differently in other cultures.

- Taking It Further—Students can make their own picture groups based on the books they listened to or their posters and display them in the library. Students can also sing the song from the *Food Time* video and add another verse about eating more grains.

Lesson 4: Pyramid Power—Students construct diets lower in fat and continue to expand the variety of foods they eat.

- Getting Started—Students review the section of the *Food Time* video where Buddy and his friends visit the grocery store. Students discuss how foods are organized in the grocery store and why similar foods are put together.
- Activity 1: All Sorts of Food—Students work in teams to display foods they have drawn or brought in by sorting them in different ways; alphabetically, by meals, colors, tastes, etc.; and then sharing their ideas with the class.
- Activity 2: Introducing the Food Guide Pyramid—Students see how foods are sorted in the Food Guide Pyramid by looking at one of the reproducibles. Students learn about all of the major food groups in the pyramid and how they provide the body with the nutrients it needs. They also learn that the very top of the pyramid is not considered a major food group and does not supply nutrients to the body.
- Activity 3: Sort a Pyramid—Students sort their foods from the previous activities according to the categories in the pyramid.
- Lunchroom Link—Students categorize the lunchroom foods according to the five food groups on the Food Guide Pyramid.
- Home Connection—Students explain the Food Guide Pyramid to their parents using one of the reproducibles.
- Wrap It Up: Paint a Food Guide Pyramid—Students paint their ideal Food Guide Pyramids with their favorite foods in each food group to display on the classroom walls or to take home to show their family.
- Taking It Further—Using one of the reproducibles, students create a pyramid pizza and also try to create a pyramid shaped poem.

Lesson 5: We Are What We Eat—Students continue to add more fruits, vegetables, and grains to their diets, expand the variety of foods they eat, and construct diets lower in fat.

- Getting Started—Students discuss the various reasons for eating and rank the reasons in order of importance. They discuss why they should eat a healthy diet, other things that help them be healthy, and what role exercise and having fun play in making them feel good.
- Activity 1: What I Feed My Body—Students use markers or crayons to trace outlines of each other on paper and then using their food diary, draw pictures of the food they ate inside their body outlines. Outside of their outline they keep a tally of how many foods they ate from each food group. The students can use the tallies to write stories about how many foods they ate from each group.

- Activity 2: What Does My Pyramid Look Like?—Students use building blocks of different colors to represent each serving of the foods they ate to build personal pyramids then compare their personal pyramid with the Food Guide Pyramid.
- Lunchroom Link—Students explain what they have learned about the Food Guide Pyramid to the food service staff and suggest changes in the menu.
- Home Connection—Students take home a reproducible that explains the new food nutrition labels so they can use the information at home.
- Wrap It Up: Set Your Personal Goals—Students use what they learned in building their pyramids to set goals that will improve their diets. They will set specific goals for each major food group so that they can reach their final goal of a balanced personal pyramid.
- Taking It Further—Students examine where the snacks they eat go in the Food Guide Pyramid and create a snack substitute chart. Students can also build pyramids for family members or friends to show them what their diets look like and make suggestions for improvements.

Lesson 6: Buddy's Restaurant—Students continue to add more fruits, vegetables, and grains to their diets, expand the variety of foods they eat, and construct diets lower in fat.

- Getting Started—Students work in teams to develop a favorite meals everyone will like and then do the same as a class. As a class, they discuss the difficulty of finding a meal everyone likes and why restaurants offer so many choices.
- Activity 1: Open a Restaurant—Students draw pictures of the restaurants they are going to open, name them, and draft a menu with a variety of foods. Later, the students check the menu against the Food Guide Pyramid to make sure they have plenty of foods from each group.
- Activity 2: Paint a Plate and Serve it—Students will draw or paint meals taken from their menus on paper plates and use them with the menus to perform a skit about choosing balanced meals.
- Lunchroom Link—Students perform their restaurant skits for the staff and suggest making "Taste Buddy" recommendations to help others choose foods from the lunchroom menu.
- Home Connection—Parents use one of the reproducibles which has ideas for the students to do some detective work on their next trip to the supermarket.
- Wrap It Up: Choose a Meal From a Real Menu—Students pick healthy meals from real take-out menus and ask the teacher or "waiter" questions about the menus.
- Taking It Further—Students create ads for their restaurants, write restaurant reviews about new foods they explore, and set new food goals.

Lesson 7: Tasty Travels—Students continue to add more fruits, vegetables, and grains to their diets and expand the variety of foods they eat.

- Getting Started—Students talk about any foods they recently tried for the first time, the circumstances under which they tried the foods, and what they thought of them.
- Activity 1: A World of Tastes—Students talk about foods they have tried that come from other countries and look for the countries on the globe or map. Students make up stories about going to other countries on taste trips and explain why they like the food.
- Activity 2: A World of Senses—Students review the five senses and discuss how they might use each to decide whether they like a food. Students brainstorm about words that describe food for each of the five senses.
- Lunchroom Link—Foods from other countries are labeled and information about other countries is added to the menu.
- Home Connection—Students discuss healthy snack choices and are encouraged to try the snack suggestions with their parents.
- Wrap It Up: Do a Blind Taste Test—Students are blindfolded and led by parents or food service staff to samples of foods. Students respond to questions from one of the reproducibles about how the food samples taste, smell, etc.
- Taking It Further—Students create an "Adventures in Eating" bulletin board with a border of flags from different countries and then add pictures of the new foods they try and like.

Lesson 8: The Great Nutrition Adventure—Students continue to add more fruits, vegetables, and grains to their diets, expand the variety of foods they eat, and construct diets lower in fat.

- Getting Started—Students review what they have discovered about food since they were first introduced to Buddy the Taste Bud and then organize a food celebration to inform people about how to choose foods for a healthy diet.
- Activity 1: Plan Your Food Fair—Students decide which of their food work pieces they want to display at the fair, what message they want to get across to their guests, which foods to offer their guests, and consider who will help them prepare the food.
- Activity 2: Write Invitations to Your Food Fair—Students write invitations to whomever they decide to invite and decorate the invitations with drawing of colorful foods they like.
- Activity 3: Make a Recipe Booklet—Students design and create recipe booklets to be photocopied and handed out to the guests at the fair.
- Lunchroom Link—Students thank the food service staff for all the good food they make by redecorating the lunchroom and sharing food from the food fair with them.

- Wrap It Up: Hold the Food Fair—Students set up their tables or booths and display their foods and the materials from the lessons. They open the fair with a restaurant skit, the video or a song from the video. Students receive a copy of *Take Out* at the end of the fair to take home to their parents.
- Taking It Further—Students can take their food fair on the road from class to class presenting their messages, doing skits, singing songs, or reading poems that encourage others to learn about choosing foods for a healthy diet. Students might also have a chef visit the classroom to talk about food preparation and give a demonstration.

MODULE 3: FOOD WORKS—GRADES 3, 4, AND 5

Module 3 is similar to Module 2 in its objectives; however, the material is geared toward third, fourth, and fifth grade students. The lessons emphasize choosing a variety of foods; eating more grains, vegetables, and fruits; and constructing a diet lower in fat. Each of the eight lessons engages the students' interest with a start-up section, followed by a few activities, and a wrap-up section. Two additional activities, *Lunchroom Link* and *Home Connection*, are included in each lesson to expand learning into the cafeteria and students' homes. Each teacher's kit includes the following for integration into the lessons:

1. Teacher's Guide. The *Food Works* curriculum is a menu of engaging activities. Teachers can select the activities in each of the eight lessons that will work best for their students. By picking and choosing activities as one would from a menu, the program can be easily adapted to the specific classroom needs. This "menu" is broken down into three subconcepts, each dealing with a broad nutrition theme.
2. Student Reproducibles. A booklet of recording sheets to be photocopied and distributed to students along with each lesson.
3. Student Magazines. A class set of magazines that introduce students to *Food Works* with simple activities and features.
4. Family Newsletter. *Take Out*, a newsletter for parents, introduces *Food Works* and the Food Guide Pyramid, and offers tips on healthy eating.
5. Parent Reproducibles. On the back of the *Food Works* poster there are eight parent pages to photocopy and send home with students. These pages include ideas for parent/child activities designed to complement each lesson.
6. Video. The *Food Works* video is hosted by Noah and Zelda, two student reporters, who introduce children to the message of healthy eating. The video consists of three main sections, each highlighting activities children will be encouraged to recreate in lessons: The first documents chefs visiting a school cafeteria and preparing foods for kids. The second features Zelda choosing foods at a green market. The third finds the two reporters at a mall talking to people about the Food Guide Pyramid.
7. Posters. Two colorful, motivational posters are included to complement the *Food Works* activities.
8. Student Portfolio. Because students will be recording their sensations, opinions, and discoveries throughout the curriculum, it is recommended that the teachers have the students keep a *Food Works* portfolio where they can store all their work.
9. Home/Family Connection. Encourages children to share any nutrition goals they set with their families so that they can work together to achieve them.

The following is a list of activities for each lesson in Module 3, along with a short description of each:

Lesson 1: Food Grows—Students discover where food comes from and explore the role plants and animals play in the bigger picture of life on earth.

- Getting Started—Students discuss what they ate for lunch and then trace the "history" of one of the foods backwards from plate to kitchen to store to factory to farm to plant.
- Activity 1: Where Are We in the Food Chain?—Students answer questions on one of the reproducibles to determine where people fit into the food chain. They list examples of edible plants, creatures that eat only plants, creatures that eat only meat, creatures that eat both plants and meat, and creatures (humans) who eat plant, meat and cooked-food. Later, they draw pictures of the plants and animals they listed and cut them out to make a food chain mobile.
- Activity 2: What Do Living Things Need to Grow?—Students brainstorm about the different conditions under which plants and animals grow strong and healthy. Then, they divide into four groups of "scientists" with each group observing seedlings growing under different conditions over a period of two weeks.
- Lunchroom Link—Students meet food service staff, and ask them about menu design and food preparation.
- Home Connection—Parents are introduced to *Food Works* and nutrition information through one of the reproducibles. Students are encouraged to continue learning about gardening by tending a container garden at home with their families.
- Wrap It Up: Save the Results—Students compare their results from Activity 2 and tell the class about their experiment. Then, they make a list of things plants must have in order to survive and a list of conditions that resulted in the healthiest plant.
- Taking It Further—Students can use what they learned to grow the ingredients for a salad or toppings for a pizza. Students can create a compost pile by layering organic material and garden soil.

Lesson 2: Bodies Grow—Students learn how the Food Guide Pyramid can help them construct a healthy diet.

- Getting Started—Students review conditions under which plants grow best and the benefits the plants get from the correct balance of soil, light, and water. They review the comparisons between the needs of people and plants. Students make a wall chart of all the benefits of a healthy lifestyle.
- Activity 1: What is a Healthy Diet?—Students learn that the Food Guide Pyramid represents a balanced diet to help people make healthy eating choices and that there are a minimum number of servings recommended for each of the major food groups. Later, students work in teams to figure out how many foods they can name for each food group and then try to place their favorite foods in the pyramid.

- Activity 2: How Much is a Serving?—Students review the "Munching at the Mall" section of the *Food Works* video and then using the foods they brought into class, estimate how many servings of each they eat at a sitting. Students divide into teams and then using measuring spoons, cups, and scales measure out serving sizes of the foods they brought to class to see how accurate their estimates were. Later, students work in teams to make a serving-size poster showing full-scale drawings of serving sizes.
- Lunchroom Link—Students compare lunchroom menus to the Food Guide Pyramid.
- Home Connection—Students explain the Food Guide Pyramid to their parents and use one of the reproducibles with their parents to do activities on the different parts of the plant.
- Wrap It Up: Daily Diet Rummy—Students use an enlarged version of the Food Guide Pyramid to cut into playing cards on which they draw different foods and play a Food Guide Pyramid card game.
- Taking It Further—After viewing the *Food Works* video again for the "Eat Smart" music at the opening, students create their own song urging others to use the Food Guide Pyramid to help them make food choices.

Lesson 3: Read All About It—Students analyze their diets, and set goals to bring their diets in line with the recommendations in the Food Guide Pyramid.

- Getting Started—Students work in groups to skim newspapers and their *Food Works* magazines for the main ideas of different articles. Students need to note that stories include many facts and reporters need to ask the questions: who, what, where, when, why, and how in their stories.
- Activity 1: Keep a Food Diary—Students keep a food diary for a 24 hour period in small reporters' notebooks. In their diaries, the students record everything they eat and drink and estimate the serving size each time they make an entry.
- Activity 2: All the Food Facts Fit to Print—Students write a newspaper article about their diets and how they stack up to the Food Guide Pyramid after categorizing the foods in their diaries according to the food groups.
- Activity 3: Informed Choices—Students review the benefits of a healthy lifestyle that they listed in Lesson 2 and set dietary goals for themselves based on the evaluations they presented in their articles. They are encouraged to share their goals with their families.
- Lunchroom Link—Students write food reviews of the cafeteria lunches.
- Home Connection—Students discuss the importance of physical exercise for a healthy body, which exercises they enjoy the most, and exercises they can do at home with their parents.

- **Wrap It Up: Keep Track of Your Progress**—Students keep a food diary for a week, compare their diets to the Food Guide Pyramid, and see if they met their dietary goals.
- **Taking It Further**—Students write a follow-up story to their article about how they have eaten since they first analyzed their diets and about any improvements they made.

Lesson 4: Label Lowdown—Students are introduced to the Nutrition Facts food label and ways to use this as a tool for making choices for healthy eating.

- **Getting Started**—Students read the article "What's in Your Snack?" from the *Food Works* magazine. They discuss all the information contained on the Nutrition Facts Label, what lines on the label will help them choose foods low in fat and sugar, and why the United States government thought it was a good idea to have the nutrition information clearly labeled.
- **Activity 1: Cereal Scoop**—Students investigate breakfast cereals by taking a poll to see which cereals are the most popular and graphing their results. They divide into teams and compare information given on the Nutrition Facts Labels for different cereals, graph the different nutrition categories, and make recommendations of cereals that are low in fat or high in fiber. The students also examine the serving sizes to determine if they accurately reflect the amounts they would normally eat and decide if they need to revise their recommendations before writing a story about what they discovered.
- **Activity 2: Food Group Focus**—Students compare milk labels and answer the questions on one of the reproducibles. They learn that by substituting 2% milk for whole milk they will lower their fat intake. The students do a blindfold taste test experiment to see if they can tell the difference between the two types of milk. Students also compare other foods that are similar within a food group.
- **Lunchroom Link**—Students determine which cafeteria foods are lower in fat.
- **Home Connection**—Students take home the reproducible, *Understanding the New Nutrition Label*, so that their families can also make use of the nutrition information.
- **Wrap It Up: Focus on Nutrition Labels**—Students write new stories on what they learned about using Nutrition Facts labels to make healthy choices.
- **Taking It Further**—Students are reporters that interview food service staff at fast food restaurants to find out how much fat they eat when they buy a meal there. Students also think up four simple exercises they could do at home or in the school yard and make an exercise spinner for selecting the exercise they will do each day.

Lesson 5: Fat Facts Feature—Students investigate the fat content of various foods, and set goals to reduce the fat content of their diets.

- **Getting Started**—Students are divided into teams with examples of Nutrition Facts labels from each of the major food groups which they arrange in order from lowest "total fat" content to highest. They try to make generalizations about what foods are likely to be higher or lower in fat and present their label lines and ideas to the class.
- **Activity 1: Where's the Fat?**—Students will learn that every group in the pyramid contains fat. Teams of students use one of the reproducibles to fill in the grams of fat for five foods from their food group and explain why certain foods within a food group have more fat than others. Students learn that sometimes fat is added in the cooking or processing of foods, or in sauces and spreads. Each team comes up with suggestions on how to spot foods high in fat and present their suggestions to the class.
- **Activity 2: Snack Attack**—Students keep track of the snacks they eat during the day by keeping snack wrappers or drawing pictures of their snacks on index cards and then sharing with the class what they have discovered about their snacking habits. Then, they use the Nutrition Facts labels on wrappers or information from the reproducible to determine the total fat content for each snack and then transfer the information to mural paper by drawing a line from zero to the highest number of fat grams they found.
- **Lunchroom Link**—Students inform others of the fat content in lunchroom foods, and make lower fat recommendations.
- **Food For Thought**—Students discuss snacks in the context of a healthy diet and are encouraged to try the snack suggestions with their parents from one of the reproducibles.
- **Wrap it Up: Talk the Talk**—Students role-play about what low-fat foods they would choose in real life at a fast food restaurant or a party where their friends are eating fatty foods.
- **Taking It Further**—Students become fat-busters and examine the food at home for fat content and come up with ways to discourage consumption of fatty snacks by rearranging items in the cabinets and displaying low-fat messages on the refrigerator. They also plan their own TV ads to carry the message to eat less fat and more fruits, vegetables, and grains like the Pumba and Timon ads at the end of the *Food Works* video.

Lesson 6: Sense-ational Food—Students examine the influence of sensory information on food choice and plan to increase the variety of foods they eat.

- **Getting Started**—Students discuss how preparation and presentation can persuade them to eat certain foods. They also share stories with the class of new foods they tried because the food looked or smelled interesting, or how a favorite food was made unappealing by being served in a new way.

- Activity 1: Sense Science—Students divide into teams and do experiments to find out how senses affect attitudes towards food. Each team tests two types of food using blindfolds and describe touch, taste, smell, and sound for each food and removes the blindfold to test sight. The teams write a report on their experiment and conclusions.
- Activity 2: Advertise Food—Each team from the previous activity lists the words used in the sensory experiments to describe foods and shares the list with the class. The students decide which words from the class list make foods seem appealing and would make them want to try them. Then, they make posters advertising foods using the descriptive words.
- Activity 3: The New Food Anthology—Students with the help of their parents, watch one-half hour of commercial programming on afternoon television and then write down the food and beverage products advertised and list ways these foods are described. The students note which food advertisements were particularly enticing. Students are challenged to try new foods and use sensory words to describe the food's texture, smell, taste, and appearance to the class. Later, the students write about every new food they eat from which they will each choose a few favorite new foods to include in a special collection or anthology of interesting taste experiences. They will draw pictures of these foods and write a descriptive sentence about each one which will be bound into their New Food Anthology.
- Lunchroom Link—Food service staff learn about students' favorite "new" foods.
- Home Connection—Students become "Supermarket Sleuths" when they use one of the reproducibles which includes ideas for detective work for their next trip to the supermarket.
- Wrap It Up: Be a Choosy Shopper—Students take a notebook with them the next time they visit the grocery store and record adjectives to describe the foods they or their parents select.
- Taking It Further—Students add new foods suggested by their teacher to their New Food Anthology and try the recipe from the *Food Works* magazine.

Lesson 7: The World on a Plate—Students expand the range of food they eat as they try foods from various cultures.

- Getting Started—Students discuss how foods originate in one place and then are shared throughout the world and eaten everywhere. They also discuss the foods they regularly eat and the countries or cultures they come from and then list the cultures and countries their taste buds have visited and the ones they would like to visit.

- Activity 1: The Great American Salad Bowl—Students learn that many historians call the United States a salad bowl since our culture has many ingredients just like a salad. They interview family members or friends about foods or recipes that are important to them and their culture. Then, the students choose one food to represent their family or culture and find the reason for its importance and history. Students illustrate their recipe and write a few sentences about its importance to them and share their stories with the class. They use the recipes to create a multicultural recipe book to be photocopied and bound for them to take home.
- Activity 2: Around the World in 80 Bites—Students work in teams and role-play travel agents that plan taste trips to other countries. They pick foods from the region that they think other students would like to try and include information about any unusual fruits, vegetables, or grains that the recipes call for. The students also research the fun facts about the people, geography, cultures and traditions of the region. Later, each team gives a presentation about its region to encourage their classmates to go on taste trips to it.
- Lunchroom Link—Students highlight the cultural origins of foods in the lunchroom, and decorate the cafeteria with a multicultural theme.
- Home Connection—Students are encouraged to have their parents look at the *Take Out* newsletter for recipes and tips on healthier eating.
- Wrap It Up: Make a Taste Trip Poster—Students make a poster of the region they visited that gives information about where it is in the world and some recipes that people enjoy there.
- Taking It Further—Students organize a multicultural celebration in the lunchroom where they set up booths representing different regions of the world where they can display their posters and recipe books for visitors to read and food to try. Students are made aware of books on the ethnic origins of foods including *Everybody Cooks Rice*; *Bread, Bread, Bread*; and *The Multicultural Cookbook for Kids*.

Lesson 8: The Great Nutrition Adventure—Students recall what they have learned about healthy eating, and share this information with family and friends.

- Getting Started—Students brainstorm about all the facts they learned about nutrition and list them on chart paper or the chalkboard.
- Activity 1: Planning the Fair—Students brainstorm about an appropriate site for their nutrition fair by listing the pros and cons of each. Students develop a name for their fair, decide whom to invite, write invitations or flyers, and develop nutrition-based games to play at the fair.
- Activity 2: Food for the Fair—Students decide what foods to serve at the fair and work in teams to draft a menu based on what they have learned about nutrition, what foods appeal to people, and what foods are practical. They work as a class on the final menu to eliminate duplication of recipes and then each team prepares one food item from the menu.

- Lunchroom Link—Students "make over" the lunchroom as a tribute to the food service staff.
- Exercise Connection—A speaker takes the opportunity to inform parents and family members of the importance of exercise in maintaining good health at the food fair.
- Wrap It Up: Fair Time!—Students set up booths or tables decorated with colorful posters and the materials they made in class to explain the different things they have learned.
- Taking It Further—Students start an ongoing campaign to publicize the quality of food served in the cafeteria by reviewing the food they eat for lunch on a weekly basis and posting their reviews with constructive suggestions on a lunchroom bulletin board.

APPENDIX B: STUDY APPROACH AND EVALUATION INSTRUMENTS

INTRODUCTION

The process evaluation of the Team Nutrition (TN) Pilot Implementation Project included a number of data collection efforts designed to document program implementation in the seven pilot communities. These efforts were conducted before, during, and after the Phase I implementation of the program in the Spring of 1996, and again before, during and after the Phase II implementation of the program in the Fall of 1996.

As described in Chapter 1, the pilot project included seven school districts. The process evaluation was conducted at two levels in these communities:

- The four communities selected for the outcome evaluation – Des Moines, Hamblen County, Tulsa, and Vacaville – were the subject of an intensive process evaluation, which included site visits by evaluation staff to each community, activity logs to document activities, classroom observations (in Phase I only), cafeteria observations, and teacher, student, and parent surveys.
- The other three communities – Lawrence, Passaic, and Cleveland – were the subject of a basic process evaluation that included a subset of the evaluation activities conducted in the intensive process communities.

This appendix describes in detail the data collection efforts conducted at each level of the process evaluation. Also included are the instruments used for the evaluation.

SCOPE OF IMPLEMENTATION

In the intensive process evaluation districts, Des Moines and Tulsa each implemented the TN program in four schools, while Hamblen County and Vacaville each implemented it in two schools. Thus, a total of 12 schools in these districts participated in the pilot. In each of these schools, the program was implemented in three grades.

In the basic process evaluation during Phase I, Lawrence implemented the program in one grade level in three schools while Passaic and Cleveland each implemented the program in three grade levels in two schools. In Phase II, Lawrence implemented the program in two grade levels in two schools while Passaic and Cleveland continued to implement in three grades in two schools.

PROCESS DATA COLLECTION ACTIVITIES AND INSTRUMENTS

INTENSIVE PROCESS EVALUATION

The purpose of the intensive process evaluation was to systematically examine the extent and approach to implementing Team Nutrition in the pilot communities. The information obtained is intended to assist other communities interested in implementing TN, and to inform the outcome analysis. As noted above, the intensive process evaluation involved data collection efforts before, during, and after the Phase I intervention, and again before, during, and after the Phase II intervention. These efforts are described in the sections that follow.

Data Collection Prior to the Intervention

The Phase I, data collection prior to the intervention included documents submitted by the school districts, in-person interviews conducted during the initial site visit, and surveys conducted in association with the outcome evaluation. We did not conduct TNC or school principal/administrator interviews on-site prior to Phase II implementation.

Documents Submitted by the School Districts

The process evaluation included the review of several documents that the districts provided as part of their participation in the pilot project:

- The application for participation in the pilot, which provided information on the school district and the schools being considered for inclusion in the pilot.
- The implementation plan, which detailed plans for meeting specific pilot program requirements.
- A planning diary, which was distributed at the planning meeting in November, 1995, and used by the districts to document planning activities.
- A community and school information form (Phase I only). The purpose of the instrument was to obtain information to supplement the profile of each Team Nutrition pilot community and schools.

Data Collection During the Initial Site Visit

Site visits were conducted in each outcome evaluation district prior to the Phase I implementation to familiarize the evaluation staff with each of the communities, to facilitate communication with the districts, and to collect information on program planning and support from school principals/administrators.

Team Nutrition Coordinator Interviews

The instrument for this in-person interview was designed to obtain information on the TN planning process, project objectives, and activities of the individuals responsible for developing and implementing Team Nutrition.

Four interviews took place (one in each of the outcome evaluation communities) prior to implementation. The interviews were conducted on-site with the district TNC or other appropriate school administrators in treatment communities and lasted approximately 1 hour.

Information collected using this guide described each district's planning and implementation processes. Information regarding project planning was used as the baseline against which implementation was compared.

School Principal/Administrator Interviews

This instrument was designed to obtain information from school administrators to assess their level of involvement and commitment to the TN project at its onset. It also introduced the school administrators to the evaluation process and answered their questions about this process.

Principals/school administrators at each of the treatment schools were interviewed on-site for a total of 12 interviews. The interviews lasted approximately 30 minutes.

Teacher Training Evaluations

Following training, teachers were asked to evaluate the overall training objectives, trainers, overall program, training logistics, and future implications.

Cafeteria Visits

During the initial site visit, evaluation staff also spent time in each school cafeteria to meet the food service staff and to familiarize themselves with cafeteria operations. These visits provided some context for subsequent interviews with cafeteria staff, the TNCs, and the teachers implementing the program.

Data Collected as Part of the Outcome Evaluation

Several of the instruments designed to assess the outcomes of the TN pilot also included items relevant to the process evaluation. These included teacher, student, and parent surveys.

Teacher Surveys

All of the teachers implementing the TN programs were given a self-administered survey during the teacher training in Phase I. The survey included items relevant to the process evaluation, for example, teacher attitudes toward teaching nutrition and nutrition knowledge. A total of 95 implementation teacher surveys were completed in the intensive process sites.

Teachers completed the same survey prior to Phase II implementation. A total of 93 surveys were completed in the intensive process sites.

Parent Surveys

All schools in the intensive process districts implemented TN at the fourth-grade level. As part of the outcome evaluation, parents of all fourth-grade students were surveyed by telephone regarding their nutrition knowledge, attitudes, and behaviors. These surveys also included items that ask about the importance of nutrition education. A total of 632 surveys were completed in Phase I with implementation parents in the intensive process sites. A total of 500 surveys were completed in Phase II.

Student Surveys

The fourth-grade students in the intensive process districts were also surveyed in the classroom to assess their skill-directed nutrition knowledge, their motivation to choose healthy foods, and their nutrition behavior. There were 762 student surveys completed in Phase I, and 694 completed in Phase II in the implementation schools in the intensive process sites.

Cafeteria Observations

These observations provided information on the degree to which the cafeteria staff followed recipes and used healthy food preparation practices. These observations were conducted in Phase I and II by field staff who conducted the food selection/plate waste observations. Observers followed a structured protocol for conducting the observations.

Observers were trained to focus on the following:

- deviations from standardized recipes or measures;
- use of low-fat cooking practices;
- freshness and preparation of produce;
- supervision of food service workers by managers;
- indications of food service workers' attitudes or motivation to provide healthy meals to students;
- recognition by food service workers of students' reactions to food; and
- external evidence of healthy nutrition promotion, such as posters.

Data Collection During the Intervention

A number of data collection efforts took place during the Phase I and Phase II implementations. Primary among these were the activity logs completed for the required core activities and the lessons taught by implementing teachers.

Prior to the start of implementation, each district TNC received:

- TN Core Activity Logs.
- Teacher Activity Logs.
- Instruction sheets.
- Envelopes preprinted with Prospect's address (to facilitate timely return of logs).

Instructions for completing both the core and teacher activity logs were included with the activity logs. In addition, a section of the teacher training was devoted to instructing teachers on the correct method for completing the logs.

To increase the accuracy and reliability of the logs, the district TNCs were responsible for reviewing the forms for accuracy and completeness. After their review, they forwarded completed logs to Prospect. Upon receipt of the logs, evaluation staff coded and edited the information. The data were then entered into two databases—one for the teacher activity logs and another for the core activity logs. The data were then cleaned by use of computer edits and exploratory data analysis.

Activity Logs

Team Nutrition Core Activity Log

The TN Core Activity Log was designed to collect basic process information on the core nutrition activities. The following information was collected for each core activity:

- Type of activity.
- Date of activity.
- Duration of activity.
- Materials used.
- Audience/Population.
- The amount of time and materials required by school and community.
- Community partner involvement.

Due to the relatively small number of logs received in Phase I (18 per district), data from the core activity logs are not presented separately in the case study report. Instead, information from the core activity logs was used to supplement descriptions of the school-wide and community events and information obtained in one-on-one interviews. Information on time and materials was reported inconsistently within and across districts; and therefore was not used for this evaluation. Core activity log data from Phase II are reported in the same manner.

Team Nutrition Teacher Activity Log

The teacher activity logs were designed to track implementation of the Scholastic lessons and captured information for each lesson on the:

- Date and duration of the lesson.

- Activities included as part of the lesson.
- Materials used in the delivery of the lesson.
- Amount of time and resources (\$) from district and school staff.
- Amount of time and resources (\$) from community partners.

To maximize the return rate for the activity logs, follow-up phone calls were conducted to prompt both the TNCs and the teachers to complete and return any outstanding logs. While it is not possible to distinguish lessons which were not conducted from lessons for which logs were not completed, interviews with teachers suggested that logs were completed for nearly all of the lessons conducted. As a result, there was a high rate of return for the teacher activity logs. A total of 765 teacher activity logs were received in Phase I, and a 817 were received in Phase II. Data from the teacher activity logs are presented in the case study report and are used to describe the implementation of the Scholastic curricula and other classroom activities. Again, information on time to complete activities and materials used was not deemed reliable and therefore was not reported.

Team Nutrition Coordinator Telephone Interviews

The instrument for this interview was designed to monitor the implementation of each TN project component, including classroom interventions, school-wide activities, parental involvement, food-service operations, community partnerships, food service staff training, and media coverage. The interview was also used to address any questions the evaluation staff had regarding the activity logs completed by the TNC and the teachers.

The district TNCs in the intensive evaluation districts were interviewed biweekly in Phase I, and in the beginning and midway through implementation in Phase II. A Prospect staff member conducted the interviews by telephone, and they lasted approximately 15-30 minutes. This monitoring process was important because it captured information about the implementation process as it occurred rather than relying on respondent recall during the second site visit.

Teacher Observations

To assess fidelity to the Scholastic materials and the teacher training, each of the fourth-grade teachers in the implementing schools was observed teaching at least one classroom session or activity from one of the first three Scholastic lessons for a maximum of 60 minutes. Teacher

observations were conducted in Phase I only. The observations were conducted by consultants who participated in the teacher training and participated in a conference call to review the procedures for observation. These observations were conducted using a structured observation form and provided information on whether teachers used the appropriate materials, encouraged interaction among students, and implemented the activities as instructed. The observer rated each teacher on the extent of adherence to the curriculum. Points on the scale included "not at all," "somewhat," and "a great deal."

Documents Submitted by the Districts

The quarterly reports submitted by the implementing districts to the USDA/FCS also provided information on the ongoing program implementation efforts.

Data Collected After the Intervention

A number of interviews were conducted after the intervention in both phases. In addition, the second round of outcome evaluation surveys were also administered.

Data Collected as Part of the Second Site Visit

The second site visit was conducted immediately after the completion of Phase I activities. It included interviews with a number of key participants in the TN Pilot Implementation Project. In Phase II, this site visit was conducted during the last two weeks of implementation. The site visits were not conducted after implementation due to conflicts with school activities (e.g., Holiday parties, end of semester activities).

Team Nutrition Coordinator Interviews

The information collected from this instrument, in conjunction with information collected throughout the implementation served as the general framework for assessing the success of the districts (and schools) in implementing their project plans. It was designed to collect information on the success of the project in achieving its initial objectives, changes in objectives during the course of the project, and barriers and facilitators to attaining objectives. A similar set of questions was asked for each TN activity. The interviews were conducted in-person during both phases and lasted 1 to 1.5 hours.

Teacher Interviews

The purpose of this instrument was to obtain in-depth information about the process of implementing the classroom interventions and the teachers' attitudes toward and perceptions of the Scholastic modules. The instrument was designed to collect information about how the Scholastic modules were implemented, how they were received, the teachers' perceptions of the materials, and general perceptions of the TN effort.

In Phase I, a total of 37 teacher interviews with fourth-grade teachers were conducted during the four site visits. Two fourth-grade teachers were not interviewed in Des Moines because of a scheduling conflict. The interviews were conducted on-site and lasted about 30 minutes.

In Phase II, a total of 36 teacher interviews were conducted with representatives from each implementation grade. The interviews were conducted on-site and lasted about 30 minutes.

Community Partner Interviews

The purpose of this instrument was to obtain information from community partners about their involvement with the TN project and the implementation of specific activities or events. The instrument was designed to collect information about how the relationships with Team Nutrition schools were established, specific events or activities with which the community partners were involved, how decisions were made regarding those events or activities, barriers and facilitators to implementing events or activities, and satisfaction with the partnership relationship.

Eleven community partners were interviewed in Phase I during the second site visits. While the original intent was to interview four community partners per site, difficulties in scheduling and the lack of established relationships with community partners in some districts resulted in an average of three community partner interviews per site.

In Phase II, 8 community partners were interviewed during these site visits.

The selection of community partners was based on nominations by the TNC in each district. The interviews were completed on-site and lasted approximately 30 minutes.

Food Service Staff Interviews

The involvement of food service staff and changes in the food service system were critical components of the implementation process. The purpose of this instrument was to gather the

perceptions and attitudes of food service workers on the implementation of the TN initiative (classroom, school, and district activities) and assess their level of involvement, their plans to meet the new Dietary Guidelines, and their plans for food service training. The instrument collected information on the level of involvement of food service staff in the TN effort, their perceptions of the training they received, the food service changes that were made, and the individuals involved in making those changes.

Interviews with school food service staff were scheduled for the end of the Phase I implementation, and again at the end of the Phase II implementation. The interview was primarily designed to be administered to school food service staff including the school food service director and one cafeteria line worker from each implementation school.

Before scheduling interviews with the school food service line worker, Prospect staff asked the school food service director to identify a member of their staff who had experience implementing nutrition education and/or was active in cafeteria operations to be interviewed. Interviews took place on-site and lasted approximately 30 minutes. The school food service director and one line worker were interviewed in each school.

Data Collected as Part of the Outcome Evaluation

As with the pre-intervention data collection, the posttest instruments from the outcome evaluation also included items relevant to the process evaluation. These included teacher, student, and parent surveys.

Teacher Surveys

The teachers implementing the TN program completed self-administered surveys during the second site visit. Items relevant to the process evaluation included teacher evaluations of the training and of the Scholastic materials. In Phase I, 93 implementation teachers in the intensive process sites completed surveys after the intervention, while in Phase II, 94 surveys were completed.

Parent Surveys

The posttest surveys of fourth-grade parents included items on parent use and opinions of Scholastic take-home materials, awareness of Team Nutrition through the media, and awareness of and participation in TN activities. A total of 567 telephone surveys with

implementation parents in the intensive process sites were completed in Phase I, and 493 were completed in Phase II.

Student Surveys

The posttest surveys of fourth-grade students included items on recall of nutrition activities and of TN PSAs. In Phase I, surveys were completed with 716 implementation students in the intensive process districts, while 687 were completed in Phase II.

Cafeteria Observations

Cafeteria observations were conducted to inform the food selection/plate waste analysis that was part of the outcome evaluation. These observations provided information on changes in preparation practices during the implementation period. Again, these were conducted at each school in both phases. The observers followed the same protocol as described earlier on page B-5.

BASIC PROCESS EVALUATION

The basic process evaluation was conducted in the remaining three pilot districts — Lawrence, Passaic, and Cleveland. This evaluation did not include site visits or observations. It did include activity logs, telephone interviews, and documents provided by the districts as described below.

Data Collection Prior to the Intervention

The data collection prior to the intervention included documents submitted by the school districts, telephone interviews, and the teacher surveys conducted during teacher training.

Documents Submitted by the School Districts

Just as with the intensive process districts, the basic process evaluation included the review of several documents provided as part of their participation in the pilot project:

- The application for participation in the pilot, which provided information on the school district and the schools being considered for inclusion in the pilot.

- The implementation plan, which detailed plans for meeting specific pilot program requirements.
- A planning diary, which was distributed at the planning meeting in November, 1995, and used by the districts to document planning activities.
- A community and school information form (Phase I only). The purpose of the instrument was to obtain information to supplement the profile of each Team Nutrition pilot community and schools.

Teacher Surveys

All of the teachers implementing the TN program completed self-administered surveys during the teacher training in Phase I. Instructions were provided to TNCs to administer surveys in Phase II in a group setting. However, implementation of the surveys varied, and often teachers completed the surveys on their own. Items relevant to the process evaluation included teacher attitudes toward teaching nutrition. In Phase I, 45 teachers in the basic process districts completed surveys prior to the intervention, while in Phase II 34 surveys were completed.

Data Collection During the Intervention

The basic process districts completed activity logs in both phases, and the TNCs were interviewed by telephone during both phases of the intervention. No teacher observations were conducted.

Activity Logs

Team Nutrition Core Activity Log

Districts in the basic process evaluation completed the same core activity logs described previously. As with the intensive process districts, data from the core activity logs are not presented separately in the case study report. Instead, information from the core activity logs was used to supplement descriptions of the school-wide and community events and information obtained in one-on-one interviews.

Team Nutrition Teacher Activity Logs

Teacher activity logs were completed by all teachers implementing the program in the basic process evaluation communities. As in the intensive process communities, logs were

completed for each lesson taught. In Phase I, a total of 317 logs were received from teachers. In Phase II, 282 logs were received. Interviews with TNCs suggested that teachers completed logs for most of the lessons they taught.

Team Nutrition Coordinator Telephone Interviews

Telephone interviews were conducted several times in each phase with the TNCs in the basic process districts to monitor implementation in those communities.

Documents Submitted by the Districts

The basic process communities also submitted quarterly reports to the USDA/FCS.

Data Collected After the Intervention

No site visits were conducted after the intervention in the basic process communities. However, the TNCs were interviewed by telephone with the same guide used to interview TNCs on-site in the intensive process communities. TNCs were interviewed by phone several times throughout each phase.

Teacher Surveys

All the teachers implementing the TN program completed self-administered surveys after the implementation. These were administered in group settings by the districts or schools themselves and in some cases teachers completed them individually. Twenty teachers in the basic process districts completed the teacher surveys in Phase I, and 38 surveys were completed in Phase II.

PREPARING FOR THE PROCESS DATA COLLECTION

PRETESTING

To assess how potential interviewees would respond to the process interview guides, several were pretested. The guides that were pretested include those used for the TNCs, principals/administrators, and food service workers.

Some of the data collection instruments were very specific to TN Pilot Implementation, so it was not possible to meaningfully pretest them.

The pilot tests were conducted to examine how well respondents understood the questions, the relevance of responses to the objective of the questions, the usefulness of the question to the study objective, and the clarity of the wording of the question. Results of the pilot test were incorporated into the final data collection instruments.

STAFF

All of the in-person and telephone interviews were conducted by Prospect staff and contract consultants. These staff received training before their first interviews.

ADVANCE LETTERS

In Phase I, respondents were contacted by telephone to schedule an interview. Following the phone call, subjects were sent an advance letter that included the following:

- A request for an interview and an explanation of why they had been selected to be interviewed.
- A description of the general topic and purpose of the interview.
- A brief description of the subjects to be covered.
- An estimate of the duration of the interview.

In Phase II, the respondents were just contacted by telephone to schedule interviews.

COMMUNITY AND SCHOOL INFORMATION FORM

COMMUNITY AND SCHOOL INFORMATION FORM

Purpose of Instrument: The purpose of this instrument is to obtain information that will be used to develop a profile of each Team Nutrition Pilot district and each of the treatment and comparison schools.

Type of Information To Be Collected: The instrument will be used to collect descriptive information on each district and individual school.

- "Community" is defined as the geographic area served by the three schools included in each set of schools (with a set defined as two elementary schools and the middle or junior high school that they feed into).
- "Community-wide" is defined as an outreach effort (activity, event, media) that is designed to extend to the community.
- "School system" is defined as the local organizational unit that governs the operations of the target schools, such as a county or district school system or board.
- "Individual school" is defined as a single school in which the Team Nutrition effort will be implemented or an individual comparison school.

Procedure for Collecting Information Using This Form: To the extent possible, the questions on this form will be completed by Prospect staff by reviewing extant reviews, such as applications, implementation plans, and training records. The form will then be mailed to the District Team Nutrition Coordinator to check the accuracy of the information and to complete the items that could not be completed during extant record review.

Uses of Information: There are multiple variables that have the potential to affect both the implementation of the Team Nutrition project and the outcomes exhibited by the participants (students, teachers, parents, schools, and communities). Key intervening variables will be the basic characteristics of the school districts, and schools in which the project takes place. The information collected through this form will be used to develop classification systems for each key descriptive variable. This will allow evaluators to examine the relationship between descriptive characteristics and specific implementation events (process evaluation) and/or participant outcomes (outcome evaluation).

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone number: _____

What is your role in the Team Nutrition effort?

Do you have any experience with school-based delivery of nutrition education?

☐ Yes

☐ No

If Yes, how much experience have you had?

☐ A lot

☐ Some

☐ Little

Please describe: _____

COMMUNITY AND SCHOOL INFORMATION FORM

Thank you for taking the time to help us collect information valuable to implementing the Team Nutrition effort. The information collected in this form will be used to develop a profile of your school district and the individual schools involved in the Team Nutrition Pilot Implementation project. Please review the entire form. You will notice that some of the information requested in this form was previously asked in your district's application forms and implementation plans. Please verify the accuracy of this information and provide any necessary corrections. In addition, while reviewing the form, please complete any missing information. If you find that there is not enough space allotted for your answers, please photocopy that page for additional space. Upon completion, please mail the form to Prospect Associates using the self addressed, stamped envelope provided. Feel free to call Laura Biesiadecki at Prospect Associates with any questions. The phone number is (301) 468-6555.

SECTION I: DISTRICT CHARACTERISTICS

This section is designed to provide information to develop a profile of the implementation district.

1. During the 2 years beginning in January 1994 and ending in December 1995, have there been any **community-wide** nutrition education activities that you are aware of?

Have any of the following activities taken place in the communities served by your school district?

5-A-Day Campaign	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't Know
National Dairy Association campaigns	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't Know
American Cancer Society campaigns	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't Know
American Heart Association campaigns	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't Know
Other (please describe)			

For each campaign that you know about, please provide a brief description of what the campaign involved in the community.

2. How would you describe the access of families in your community to large supermarkets that offer a variety of food choices?

- ☐ All families have easy access
- ☐ Most families have easy access
- ☐ Some families have easy access
- ☐ Most families do not have easy access
- ☐ None of the families have easy access

SECTION II: SCHOOL SYSTEM AND SCHOOL CHARACTERISTICS

This section will provide information to develop a demographic profile in the implementation communities.

3. For each of the treatment and comparison schools included in the Team Nutrition Pilot implementation effort, describe the student population.

Name of school (asterisk comparison schools)	Ethnic/racial composition of student population	Percent of students who have applied for free/reduced school lunch program	Percent of students who eat school lunch (per month)
	<input type="checkbox"/> % Caucasian <input type="checkbox"/> % African American <input type="checkbox"/> % Hispanic <input type="checkbox"/> % Asian American <input type="checkbox"/> % Native American <input type="checkbox"/> % Other		
	<input type="checkbox"/> % Caucasian <input type="checkbox"/> % African American <input type="checkbox"/> % Hispanic <input type="checkbox"/> % Asian American <input type="checkbox"/> % Native American <input type="checkbox"/> % Other		
	<input type="checkbox"/> % Caucasian <input type="checkbox"/> % African American <input type="checkbox"/> % Hispanic <input type="checkbox"/> % Asian American <input type="checkbox"/> % Native American <input type="checkbox"/> % Other		
	<input type="checkbox"/> % Caucasian <input type="checkbox"/> % African American <input type="checkbox"/> % Hispanic <input type="checkbox"/> % Asian American <input type="checkbox"/> % Native American <input type="checkbox"/> % Other		

4. Please describe the types of classrooms for each of the modules you have selected.
Please use the definitions provided below.

- (1) Name of school: List the name of the treatment and comparison schools. Please identify comparison schools with an asterisk.
 (2) Circle the grade level selected.
 (3) Indicate the total number of classes in each grade
 (4) Describe the type of classroom for each of the grades specified. Use the definitions provided below:

Traditional: A traditional class is one class/one grade/one teacher.

Grade level pods: Grade level pods are defined as students at each grade level combined with teachers teaching various subjects.

Mixed grade classes: Mixed grade classes are defined as students from different grades combined in one classroom.

Other: Please describe: _____

(1) Name of School	(2) Grade Level Selected (Circle one)	(3) # of classes per grade	(4) Description of classroom
	Pre K K		
	1 2		
	3 4 5		
	Pre K K		
	1 2		
	3 4 5		
	Pre K K		
	1 2		
	3 4 5		
	Pre K K		
	1 2		
	3 4 5		

5. How are curriculum and program decisions made in the school district?

- ☐ All curriculum and program decisions are made at the State level and passed on to the districts.
- ☐ Some decisions are made at the State level and some at the district level.
- ☐ All curriculum and program decisions are made at the district level and passed on to the local schools.
- ☐ Some curriculum and program decisions are made at the district level and some are made at the local school level.
- ☐ All curriculum and program decisions are made at the level of the individual schools.
- ☐ Other (please describe) _____

6. Is there a State or district requirement for nutrition education in the classroom?

☐ State☐ District☐ Neither @ Skip to 7

If yes, please describe the requirement in terms of grade level, amount of time spent, and content of the materials, including the degree to which these items are specified by the state and/or district.

_____	_____
_____	_____
_____	_____
_____	_____

7. For each treatment and comparison school, please describe the nutrition education activities that have taken place from August 1994 to December 1995. Please use the definitions provided below.

- (1) Name of school: List the name of the treatment and comparison schools. Please identify comparison schools with an asterisk.
- (2) Nutrition education activities: For each school listed, respond yes or no. If yes, briefly describe, if possible, the activity.
- (3) Grades involved: Provide the grade(s) involved in the activity.
- (4) Teachers involved: Specify the number of teachers involved in the activity.
- (5) Nutrition education objective: State the nutritional objective of the activity (i.e., education on the food guide pyramid, foods lower in fats, encouraging broader food choices).

(1) Name of school	(2) Nutrition education		(3) Grades involved	(4) Teachers involved	(5) Nutrition education objective
	Yes	No			
	Yes	No			
	Yes	No			
	Yes	No			

8. For each treatment and comparison school, please describe the cafeteria arrangements for 4th grade students. Use the definitions provided below.

- (1) Name of school: List the names of the treatment and comparison schools.
 (2) Can children leave the school at lunch time?: Please circle Yes or No.
 (3) Seating arrangements: Describe how the children are seated in the cafeteria, for example open seating, classes sit together, or in the classroom.
 (4) Eat together: Specify by circling Yes or No if students in the 4th grade go to lunch together and sit together with no mixing with other grades.
 (5) Lunch periods: Please list the times that 4th graders go to lunch. If they go at different times, please specify, for example, 2 classes from 12:00-12:30 and 2 classes from 12:30-1:00. Include only the eating time, not recess.
 (6) Are lunch recess periods combined?: Circle Yes or No to indicate whether lunch also includes time for recess.

(1) Name of school	(2) Can children leave the school at lunch time?	(3) Seating arrangements	(4) Eat together	(5) Lunch period	(6) Are lunch recess periods combined?
	Yes No		Yes No		Yes No
	Yes No		Yes No		Yes No
	Yes No		Yes No		Yes No
	Yes No		Yes No		Yes No
	Yes No		Yes No		Yes No

9. For each treatment and comparison school, please describe the menu choices for 4th grade students. Use the instructions provided below.

- (1) Name of school: List the names of the treatment and comparison schools.
- (2) Offer or Serve method: Specify whether the school uses and offer or serve protocol for school lunch. If a serve method is used, the children have one of each item placed on their tray. If an offer method is used, the children can choose which foods they take and how much they take.
- (3) Competitive food sales: (other than school lunch): Specify the type (if any) of competitive food sales available to children, such as vending machines, bake sales, or food provided by outside vendors. If no competitive sales are available, please respond with a 'no.'
- (4) Availability of Items: Items that are available to students in the 4th grade: a la carte, salad bar, soup bar, potato bar. List all of the following:

(1)		(2)		(3)		(4)	
Name of school		Offer or Serve		Competitive Food Sales		Availability of items	
		Offer	Serve	Yes	No		
		Offer	Serve	Yes	No		
		Offer	Serve	Yes	No		
		Offer	Serve	Yes	No		
		Offer	Serve	Yes	No		
		Offer	Serve	Yes	No		

10. For each treatment and comparison school, please describe the menus using the definitions provided below.

- (1) Name of school: List the names of the treatment and comparison schools.
- (2) Level of menu decisions: Specify the level of the school system at which menu decisions are made, such as State, district, or school.
- (3) Advance menus: Respond 'yes' or 'no' if the menus are made available to students/parents in advance.
- (4) Menu changes: Please specify whether last-minute menu changes are made 'often,' 'sometimes,' or 'never.'
- (5) Nutritional analysis: Please specify whether the current menus have been analyzed for nutritional content with a USDA-approved software by responding 'yes' or 'no,' also stating the type of software used (if any).
- (6) Dietary guidelines: Please identify whether the current menus meet the dietary guidelines as specified on June 15 with a 'yes' or 'no' answer. If yes, please specify the software used.

(1) Name of school	(2) Level of menu decisions	(3) Advance menus	(4) Menu changes	(5) Nutritional analysis	(6) Dietary guidelines
		Yes No		Yes No	Yes No
		Yes No		Yes No	Yes No
		Yes No		Yes No	Yes No
		Yes No		Yes No	Yes No

11. How far in advance are monthly menus available for distribution?

- ☐ 1 week before beginning of month
☐ between 1 week to 3 weeks before beginning of month
☐ at least 1 month before beginning of month

SECTION III: FOOD SERVICE AND TEACHER TRAINING

This section will provide information to assess the level of food service training in implementation districts.

13. In the past year, have any of the school food service personnel in the treatment and comparison schools received training on meeting dietary guidelines?

- ☐ Yes ☐ No

If yes, identify the school, type of training received, and whether this training was school initiated.

14. In the past year, have any of the district food service personnel in the treatment and comparison schools received training on meeting dietary guidelines?

- ☐ Yes ☐ No

If yes, identify the type of training received and whether this training was school initiated.

15. What were the dates of your teacher training?

Phase I Session I (date)_____

Phase II Session I (date)_____

Session II (date)_____

Session II (date)_____

16. How many teachers in your district were offered training and how many completed training? Please provide numbers of teachers by grade level.

Grade Level (Circle one)	Offered	Completed
Pre K K		
1 2		
3 4 5		

Thank You for Your Time!

TEACHER TRAINING EVALUATION FORM

**USDA TEAM NUTRITION
PILOT COMMUNITY IMPLEMENTATION PROJECT
TRAINING EVALUATION FORM**

We would appreciate your completion of the following form to help us evaluate the usefulness and success of this training. Please leave this form with a trainer at the end of Session II. Thank you in advance for your feedback.

For each item, please use the rating scale presented below unless otherwise indicated. Write the number that represents your answer in the corresponding underlined space.

- | |
|--------------------------------|
| 1 = Strongly agree |
| 2 = Somewhat agree |
| 3 = Neither agree nor disagree |
| 4 = Somewhat disagree |
| 5 = Strongly disagree |

MODULE LEVEL: (check one) ☐ One (PK-K) ☐ Two (grades 1-2) ☐ Three (grades 3-5)

OVERALL TRAINING OBJECTIVES

The training was successful in addressing the following objectives:

- a. _____ To define and discuss general principles of healthy eating, the importance of teaching nutrition, and the link between diet and disease prevention, which will enable you to teach your students to make healthy food choices.
- b. _____ To use a range of instructional methods and preparation tools and identify resource materials to effectively teach the Team Nutrition modules.
- c. _____ To demonstrate principles of social learning instruction to influence behavior change in students.

Comments: _____

SESSION ONE

The following segments were informative and met my expectations:

- a. _____ Introduction and Pretest

Comments: _____

- b. _____ Icebreaker Exercise

Comments: _____

- c. _____ Training Objectives

Comments: _____

- d. _____ Team Nutrition Program Components

Comments: _____

- e. _____ Nutrition Education - Dietary Guidelines, Food Guide Pyramid, Food Labels

Comments: _____

- f. _____ Techniques for Affecting Behavior Change (Social Learning, Behavior-based Approaches)

Comments: _____

- g. _____ Training by Module - Resource Materials; Tips and Delivery Demonstration

Specify Grade Level You Teach _____

Comments: _____

- h. _____ Evaluating Team Nutrition Pilot Implementation Project

Comments: _____

SESSION TWO

The following segments were informative and met my expectations:

- a. _____ Welcome and Opening

Comments: _____

- b. _____ Nutrition Concepts Revisited

Comments: _____

- c. _____ Progress Reports from Schools

Comments: _____

- d. _____ Lessons Learned and Practice Exercises by Module

Comments: _____

- e. _____ Working with Food Service Staff

Comments: _____

FOR SESSION ONE & TWO:**TRAINERS AND OVERALL PROGRAM**

- a. _____ The training provided me with the tools I need to teach the Team Nutrition module.
- b. _____ The training program provided a good balance of presentations and opportunities for interaction.
- c. _____ The training session gave participants opportunities to ask questions, give input, and share experiences.
- d. _____ The trainers, overall, were appropriate for the topics they discussed and they demonstrated effective presentation/facilitation skills.

SESSION ONE

The following segments were informative and met my expectations:

- a. _____ Introduction and Pretest

Comments: _____

- b. _____ Icebreaker Exercise

Comments: _____

- c. _____ Training Objectives

Comments: _____

- d. _____ Team Nutrition Program Components

Comments: _____

- e. _____ Nutrition Education - Dietary Guidelines, Food Guide Pyramid, Food Labels

Comments: _____

- f. _____ Techniques for Affecting Behavior Change (Social Learning, Behavior-based Approaches)

Comments: _____

- g. _____ Training by Module - Resource Materials; Tips and Delivery Demonstration

Specify Grade Level You Teach _____

Comments: _____

- h. _____ Evaluating Team Nutrition Pilot Implementation Project

Comments: _____

SESSION TWO

The following segments were informative and met my expectations:

- a. _____ Welcome and Opening

Comments: _____

- b. _____ Nutrition Concepts Revisited

Comments: _____

- c. _____ Progress Reports from Schools

Comments: _____

- d. _____ Lessons Learned and Practice Exercises by Module

Comments: _____

- e. _____ Working with Food Service Staff

Comments: _____

FOR SESSION ONE & TWO:**TRAINERS AND OVERALL PROGRAM**

- a. _____ The training provided me with the tools I need to teach the Team Nutrition module.
- b. _____ The training program provided a good balance of presentations and opportunities for interaction.
- c. _____ The training session gave participants opportunities to ask questions, give input, and share experiences.
- d. _____ The trainers, overall, were appropriate for the topics they discussed and they demonstrated effective presentation/facilitation skills.

TRAINING LOGISTICS

- a. _____ The number and length and number of breaks was sufficient.
- b. _____ The location of the training was convenient.
- c. _____ The room setups were conducive to accomplishing the goals of the training.
- d. _____ The process for dividing into breakout groups was well planned and handled efficiently.
- e. _____ The training materials were clear and sufficiently detailed to support the program.

TRAINING PROGRAM SUMMARY & FUTURE IMPLICATIONS

- a. Two most useful features of the training program:

- b. The two least useful features of the training program:

- c. Suggestions for future trainings:

- d. Are you planning to teach the same grade level next year? (check one) ☐ Yes ☐ No
If no, what grade will you be teaching and at what school?

Optional Information:

Name: _____

School: _____

School District: _____

ACTIVITY LOGS

January 25, 1996

TO: Team Nutrition Schools

FROM: Laura Biesiadecki

SUBJECT: Activity Logs

INSTRUCTIONS FOR TEAM NUTRITION COORDINATORS

The process evaluation components of the Pilot Implementation Project consist of a series of interviews and efforts to monitor the level of nutrition education activities being conducted in your school district and individual schools, we have developed the Team Nutrition activity log.

There are two process instruments:

- The Team Nutrition Activity Log
- The Team Nutrition Teacher Activity Log

In your district's implementation plan, you were asked to designate a contact person for each planned activity.

You are responsible for overseeing the completion of the logs after each activity.

The following pages provide instructions and examples for completing both types of logs.

INSTRUCTIONS FOR COMPLETING THE TEAM NUTRITION ACTIVITY LOG

Your school district has volunteered to be a Team Nutrition Pilot Community. This includes conducting a series of nutrition education activities and events and participating in the evaluation of this program. You have been identified as a person primarily responsible for directing one or more of these events. The responsibilities associated with this role include filling out an activity log upon completion of a nutrition activity.

The attached activity log is critical part of the evaluation efforts and will help us document the nutrition education activities that are conducted in your school. We urge you to take the time to complete this form and forward it to your District Team Nutrition Coordinators (or school contact if applicable) as soon as possible after completion of an activity or the end of the school week in which the activity was completed. A separate form should be completed for each activity or event for which you are responsible. This instrument should take no longer than 5 minutes to complete. Your school contacts and district coordinators will be following up on your progress in completing activities and maintaining logs.

Below are instructions for completing the log sheets. If you have any questions, please contact your designated school district's Team Nutrition Coordinator. The Team Nutrition Coordinator for your district is Her phone number is:

General Instructions and Definitions

You should complete this form if...

- You are the person primarily responsible for a district-wide Team Nutrition activity or event.
- You are the person primarily responsible for a school-wide Team Nutrition activity or event.
- You are a teacher who directs nutrition activities other than classroom-based activities. (A separate log is used for lessons taught in the classroom)

IF YOU HAVE ANY QUESTIONS AS TO WHETHER YOU ARE RESPONSIBLE FOR COMPLETING THIS FORM, CONTACT YOUR DISTRICT TEAM NUTRITION COORDINATOR.

Definitions

Chef Activities - An activity or event in which local chefs volunteer to educate students or staff about healthy food choices or participate in school lunch preparation. Please do include activities such as the Great Nutrition Adventure or other chef visits to the school.

Cafeteria Activities - A school-wide promotional activity involving students which is conducted in the cafeteria and designed to promote healthy food choices. Please do include activities such as kitchen tours and recipe contests. Do not include changes in food preparation or menu planning and cafeteria links that are part of the Scholastic module.

Parent Contacts - An activity or event designed to educate parents about healthy eating habits and/or nutritious school lunches and to involve them in their children's food choices. Please do include activities such as parent breakfasts and lunches, family nights, and sending home newsletters that are not part of the Scholastic module.

Food Service Training - An activity or event in which food service staff are provided instruction on food preparation, nutrition, etc... Please do include training targeted for school or district level food service workers; do not include non-nutrition related training such as computer or accounting training.

Community Event - This is an event or program that is designed to reach a broad segment of the district's population and may involve community partners. Please do include activities such as having a taste-testing booth at a district-wide health fair. However, only report on the Team Nutrition component of the broader events for which you may be responsible.

Media Event - An event or program that involves promotion of Team Nutrition or nutrition-related objectives through print, radio, or television. Please do include activities such as press releases, press conferences, or other solicited press coverage of a school or district event.

Item Specific Clarifications

Place your name, the date you completed the form, and the school and district you represent in the spaces provided at the top of the form. Do not fill in the activity ID; that is for internal purposes.

- 2.a. Note the date(s) the activity was conducted. If the activity took more than one day to complete, please enter the dates that the activity was conducted or the start and finishing date. Do not include time for planning.
- 2.b. Indicate how long it took to complete the activities. For example, if you set a booth at a health fair at 1:00 p.m. and the fair ended at 4:00 p.m., the duration of the event was 3 hours. Please report to the nearest quarter of an hour.
3. Check whether the activity was designed for the classroom, an individual school, or the school district. If more than one category apply, check all that apply. If no category describes the scope of the activity, please check "other" and specify.

5. In the spaces provided, indicate the type(s) of materials that were used or created for the activity. For each material checked, mark whether it was part of the Team Nutrition materials, was existing from other sources, such as the National Dairy Council, or was created for this lesson. If the materials were a combination of Team Nutrition, other existing or new materials, check all that apply.
6. To complete the chart, under the columns titled "Staff/Volunteer Time" for both District/School and Community Partner, specify the total amount of time spent (in hours) by **all** staff and volunteers. List separately the time spent planning and implementing this activity. Please include parent volunteers, if applicable. Under the columns titled "\$" , specify to the best of your knowledge, for both the district/school and the community partners the value of funds or materials needed to conduct this event/activity beyond materials that are normally available to you. For example, please include the estimated value of a food contribution by a local restaurant. Do not include the value of the cost of meeting space that is normally available to you at no charge or loan of audio-visual material that you would not have had to buy.
9. In question 3, you identified the general category of the activity that was conducted, however, we would like further information on the type of activity. Using the list provided, please describe the type of event, program, or project that was conducted as part of your nutrition education efforts.

Finally, we want to hear your comments. Please provide any additional information on the event or activity that would help describe the activity, participants, and/or level of effort that went into making the event successful.

THANK YOU FOR YOUR TIME!

Form completed by _____ (Name)

District: _____

Date completed _____

School: _____

Activity ID: _____

TEAM NUTRITION TEACHER LESSON LOG

1. Title of lesson: _____

2. a. Date(s) the lesson was conducted: _____

b. Duration of lesson: _____ (hrs)

(Note: This should be the total of all of the activities)

3. Grade level: _____

4. Activities conducted for this lesson: (check all that apply)

- | | | | |
|--|--|--|-------------------------------------|
| <input type="checkbox"/> Getting Started | <input type="checkbox"/> Activity 1 | <input type="checkbox"/> Activity 2 | <input type="checkbox"/> Activity 3 |
| <input type="checkbox"/> Lunchroom Link | <input type="checkbox"/> Home connection | <input type="checkbox"/> Exercise connection | <input type="checkbox"/> Wrap it up |
| <input type="checkbox"/> Taking it further (specify activity(ies)) _____ | | | |

☐ Other lessons (describe) _____

5. Materials: (check all that apply) - If you used or developed materials as part of your efforts to conduct this activity, please indicate the type of material(s) developed. For each type of material developed, please indicate whether they were Team Nutrition materials, other existing materials, or new materials developed specifically for the lesson (check all that apply).

	Used Team Nutrition Materials	Used Other Existing Materials	Developed New Materials
<input type="checkbox"/> Food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Food labels/boxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Food models	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Kitchen equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Newsletter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic parent reproducibles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic parent magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Poster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Recipes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Slide show	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Nutrition software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic student magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic student reproducibles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Training manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Video	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other: _____			

6. Time and resources: In the chart below, please specify the amount of the staff time (including all volunteers, teachers, and other staff) and additional resources (estimated in dollars) spent by the school/district and by community partners in planning and implementing the classroom lesson.

	District/School		Community Partner	
	Staff/Volunteer Time (Hrs.)	\$ Value of other resources	Staff/Volunteer Time (Hrs.)	\$ Value of other resources
Planning				
Implementing				

Form completed by: _____ (Name) Title: _____

School: _____

Date completed: _____

District: _____

Activity ID: _____

TEAM NUTRITION CORE ACTIVITY LOG

1. Title of the activity: _____

2. a. Date(s) the actual activity/event was conducted: _____ b. Duration of activity/event: _____ (hrs)

3. Scope of activity:

☐ Classroom☐ School-wide☐ District☐ Other _____

4. Core Activity (check all that apply) - Please indicate the type of core activity conducted. If a media event, indicate the medium used.

☐ Chef activity☐ Cafeteria activity☐ Parent contact☐ Food service training☐ Community event☐ Media event (check all that apply) _____ →☐ TV☐ Radio☐ Newspaper

5. Materials (check all that apply) - If you used or developed materials as part of your efforts to conduct this activity, please indicate the type of material(s) developed. For each type of material developed, please indicate whether they were Team Nutrition materials, other existing materials, or new materials developed specifically for this activity (check all that apply).

	Used Team Nutrition Materials	Used Other Existing Materials	Developed New Materials
<input type="checkbox"/> Flier/announcement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Pamphlet/brochure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Newsletter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other nutrition curriculum/activity guides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic parent reproducibles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic parent magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Posters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Press release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Recipes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Slide show	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Nutrition software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic student magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Scholastic student reproducibles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Training manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Video	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Video news release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. In the chart below, please specify the amount of the staff time (including all volunteers) and additional resources (estimated in dollars) spent by the district/school and by community partners in planning and implementing the activity.

	District/School		Community Partner	
	Staff/Volunteer Time (Hrs.)	\$ Value of other resources	Staff/Volunteer Time (Hrs.)	\$ Value of other resources
Planning				
Implementing				

7. Community Partners - Please indicate any community partners that participated in planning or implementing the activity.

- ☐ Church or Religious Organization (Specify: _____)
☐ Commodity Group (i.e. National Dairy Council) (Specify: _____)
☐ Health Care Association (Specify: _____)
☐ Local Health Department
☐ Media Representative (Specify: _____)
☐ Parent Organization (Specify: _____)
☐ Private Industry (Specify: _____)
☐ WIC Program/Head Start
☐ Youth Organization (Specify: _____)
☐ Other (Specify: _____)

8. How were the community partners involved? Did they provide (check all that apply):

- ☐ Money ☐ Materials ☐ Media space
☐ Staff ☐ Food ☐ Meeting/Event Space
☐ Other (specify): _____

9. Description of Activity (check all that apply) - Please indicate the specific components of the core activity that were conducted to complete this core activity.

- | | | |
|--|---|--|
| <input type="checkbox"/> Assembly presentations | <input type="checkbox"/> Computer program | <input type="checkbox"/> Family nights |
| <input type="checkbox"/> Field trip | <input type="checkbox"/> Food diaries | <input type="checkbox"/> Health fair |
| <input type="checkbox"/> Kitchen tours (cafeteria or restaurant) | <input type="checkbox"/> Letters for parents | <input type="checkbox"/> Lunch or breakfast with parents |
| <input type="checkbox"/> Materials development | <input type="checkbox"/> Menu planning (involving students) | <input type="checkbox"/> Recipe contests |
| <input type="checkbox"/> Supermarket tours; visits | <input type="checkbox"/> Taste testing | <input type="checkbox"/> Training |
| <input type="checkbox"/> Other (Brief description: _____) | | |

☐ Other (Brief description: _____)

10. Populations Participating (check all that apply) - Please indicate the audience(s) for the event/activity and approximate number of people who participated.

- | | Number Participating |
|--|----------------------|
| <input type="checkbox"/> Teachers | _____ |
| <input type="checkbox"/> Students (Pre-K and K) | _____ |
| <input type="checkbox"/> Students (Grades 1-2) | _____ |
| <input type="checkbox"/> Students (Grades 3,4,5) | _____ |
| <input type="checkbox"/> Students (Grades 6,7,8) | _____ |
| <input type="checkbox"/> Parents | _____ |
| <input type="checkbox"/> Food Service Workers | _____ |
| <input type="checkbox"/> Administrators | _____ |
| <input type="checkbox"/> General Community | _____ |
| <input type="checkbox"/> Other Community Organizations | _____ |
| <input type="checkbox"/> Other: _____ | _____ |

Additional Comments: _____

OBSERVATION FORMS

**USDA TEAM NUTRITION PROGRAM
FOURTH GRADE TEACHER OBSERVATION FORM
COVER SHEET**

Name of Observer: _____

Date: _____

Name of School and District: _____

Name of Teacher: _____

Name of Lesson Observed: _____

Start Time: _____

End Time: _____

Part of Lesson Observed:	<input type="checkbox"/>	Getting Started	<input type="checkbox"/>	Wrap it up
	<input type="checkbox"/>	Activity 1	<input type="checkbox"/>	Taking it Further
	<input type="checkbox"/>	Activity 2	<input type="checkbox"/>	Home Connections
	<input type="checkbox"/>	Activity 3		

Instructions

This form is designed to provide descriptive information on how the Team Nutrition classroom modules are used in the classroom. The questions contained in the form relate to the environment in which the lesson is being taught, the teacher's overall adherence to the lesson plan, the teacher's adherence to specific learning objectives and activities contained within the lesson plan, and the classroom dynamics. For this observation, you are being asked to observe one classroom session for a maximum of 60 minutes.

Since the lessons contained in the Team Nutrition curricula are designed to span several classroom sessions, we do not anticipate that you will be observing a complete lesson. Therefore, in order to get a better sense of how the lesson specific activities are being taught in the classroom, we have designed questions that are specific to the classroom activities.

- Complete every question in Sections I, III, IV, and V; they are relevant to every lesson and classroom session in the Team Nutrition 3-5 module.
- Complete those questions in Section II that are relevant to the activity you are observing. The questions contained in Section II are specific to the actual activity taught.

**USDA TEAM NUTRITION PROGRAM
FOURTH GRADE TEACHER OBSERVATION FORM**

LESSON 1

For each question, circle the appropriate response. In the spaces provided at the end of each section, please provide any explanatory comments or descriptions that would be helpful in interpreting your responses.

I. ENVIRONMENT

How is the classroom set up?	Theater	Hollow square	Rounds	Other
Are Team Nutrition materials displayed?	Yes	No		
Are any other nutrition-related visual materials displayed?	Posters	Pictures of Food	Mobiles	Other

Additional comments: _____

II. OVERVIEW

To what extent, does the teacher:	<u>Not at</u>		<u>Somewhat</u>		<u>A great</u>
	<u>all</u>				<u>deal</u>
Is the teacher adhering to the curriculum content of the lesson plan?	1	2	3	4	5
Are the activities being conducted as described of the lesson plan?	1	2	3	4	5
Are audiovisual resources being used in accordance with the lesson plan?	1	2	3	4	5
Are the teaching materials required being used in accordance with the lesson plan?	1	2	3	4	5

Additional comments: _____

III. NUTRITION INFLUENCES (For Lesson 1 of Module 3-5)

Did the teacher:

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Convey to the students the difference between food and health?	1	2	9
Encourage parental involvement in the take home activity?	1	2	9

IV. LESSON SPECIFIC ACTIVITIES

For each activity, check if the activity is observed and then complete items for that section.

[GETTING STARTED] _ Check here if this activity is observed

Did the teacher:

	<u>Yes</u>	<u>No</u>
Trace the history of food items with the class?	1	2
Request individual class members to trace the history of a food item?	1	2
Describe how one action leads to another along the processing chain?	1	2

[ACTIVITY 1] _ Check here if this activity is observed

Did the teacher:

Explain that plants and animals were both part of the human diet?
Review the importance of plants to the ecosystem?

Yes	No
1	2
1	2

[ACTIVITY 2 OR WRAP IT UP] _ Check here if this activity is observed

Did the students:

Discuss conditions that make plants and animals healthy?
Discuss what plants have to survive?
Discuss what people must have to survive?

Yes	No
1	2
1	2
1	2

Additional comments: _____

V. CLASSROOM DYNAMICS

Next, indicate the extent to which the teacher engaged in each of the behaviors listed below. Use the scale from 1 to 5 where one means the teacher did not engage in the behavior "at all" and 5 means the teacher exhibited the behavior "a great deal."

To what extent does the teacher:

	Not at all			Somewhat		A great deal	N/A
Engage the students in the discussion?	1	2	3	4	5	9	
Facilitate student participation?	1	2	3	4	5	9	
Encourage questions?	1	2	3	4	5	9	
Answer questions accurately?	1	2	3	4	5	9	
Seem comfortable with the curriculum content?	1	2	3	4	5	9	
Create a positive atmosphere about healthy eating?	1	2	3	4	5	9	

Please indicate whether or not the teacher does each of the following.

Offer verbal/nonverbal praise to students?
Offer non-food incentives?
Offer food incentives?
Identify the benefits of adopting health eating behaviors?
Use class discussions and/or small group exercises to discuss healthy eating habits?
Did disruptive students affect lesson delivery?
If yes, please describe.

Yes	No
1	2
1	2
1	2
1	2
1	2
1	2

Additional comments: _____

**USDA TEAM NUTRITION PROGRAM
FOURTH GRADE TEACHER OBSERVATION FORM**

LESSON 2

For each question, circle the appropriate response. In the spaces provided at the end of each section, please provide any explanatory comments or descriptions that would be helpful in interpreting your responses.

I. ENVIRONMENT/TEACHER PREPARATION

How is the classroom set up?	Theater	Hollow square	Rounds	Other
Are Team Nutrition materials displayed?	Yes	No		
Are any other nutrition-related visual materials displayed?	Posters	Pictures of Food	Mobiles	Other
Did the teacher have all resources needed to conduct the activity?	Yes	No		

Additional comments: _____

II. LESSON SPECIFIC ACTIVITIES

For each activity, check if the activity is observed and then complete items for that section.

[GETTING STARTED] _ Check here if this activity is observed

Did the teacher:

	<u>Yes</u>	<u>No</u>
Review conditions under which plants grow best?	1	2
Ask students what benefits people get from correct balance of food, water, and exercise?	1	2
Ask students to make a chart of the benefits of a healthy lifestyle?	1	2

Additional comments: _____

[ACTIVITY 1] _ Check here if this activity is observed

Did the students:

	<u>Yes</u>	<u>No</u>
Discuss the Food Guide Pyramid?	1	2
In teams, name foods from each food group?	1	2
List their favorite foods and place them in the pyramid?	1	2
Try to place combination foods?	1	2

[ACTIVITY 2] _ Check here if this activity is observed

Did the teacher:

	<u>Yes</u>	<u>No</u>
Have food available to estimate serving sizes?	1	2
Have students estimate the number of servings they eat at a sitting?	1	2
Have students measure foods into serving sizes?	1	2
Have students make a serving size poster?	1	2

[WRAP IT UP]

Did the students play Daily Diet Rummy?

<u>Yes</u>	<u>No</u>
1	2

Additional comments: _____

III. CLASSROOM DYNAMICS

Next, indicate the extent to which the teacher engaged in each of the behaviors listed below. Use the scale from 1 to 3 where one means the teacher did not engage in the behavior "at all" and 3 means the teacher exhibited the behavior "a great deal."

To what extent does the teacher:	<u>Not at all</u>	<u>Somewhat</u>	<u>A great deal</u>	<u>N/A</u>
Engage the students in the discussion?	1	2	3	9
Facilitate student participation?	1	2	3	9
Encourage questions?	1	2	3	9
Answer questions accurately?	1	2	3	9
Seem comfortable with the curriculum content?	1	2	3	9
Create a positive atmosphere about healthy eating?	1	2	3	9

Please indicate whether or not the teacher does each of the following:

	<u>Yes</u>	<u>No</u>
Offer verbal/nonverbal praise to students?	1	2
Offer non-food incentives?	1	2
Offer food incentives?	1	2
Identify the benefits of adopting healthy eating behaviors?	1	2
Use class discussions and/or small group exercises to discuss healthy eating habits?	1	2
Did disruptive students affect lesson delivery?	1	2
If yes, please describe.		

Additional comments: _____

IV. NUTRITION INFLUENCES (For Lesson 2 of Module 3-5)

Did the teacher:

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Encourage students to discuss the benefits of a healthy diet?	1	2	9

V. OVERVIEW

To what extent:

	<u>Not at all</u>	<u>Somewhat</u>	<u>A great deal</u>
Is the teacher adhering to the curriculum content of the lesson plan?	1	2	3
Are the activities being conducted as described of the lesson plan?	1	2	3
Are audiovisual resources being used in accordance with the lesson plan?	1	2	3
Are the teaching materials required being used in accordance with the lesson plan?	1	2	3

Additional comments: _____

**USDA TEAM NUTRITION PROGRAM
FOURTH GRADE TEACHER OBSERVATION FORM**

LESSON 3

For each question, circle the appropriate response. In the spaces provided at the end of each section, please provide any explanatory comments or descriptions that would be helpful in interpreting your responses.

I. ENVIRONMENT

How is the classroom set up?	Theater	Hollow square	Rounds	Other
Are Team Nutrition materials displayed?	Yes	No		
Are any other nutrition-related visual materials displayed?	Posters	Pictures of Food	Mobiles	Other
Did the teacher have all resources needed to conduct the activity?	Yes	No		

Additional comments: _____

II. LESSON SPECIFIC ACTIVITIES

For each activity, check if the activity is observed and then complete items for that section.

[GETTING STARTED] _ Check here if this activity is observed

Did the teacher:

	<u>Yes</u>	<u>No</u>
Have the class work in small groups to identify the main ideas of different articles in newspapers and Food Works?	1	2
Ask students to find answers to who, what, when, where, why, and how in the articles?	1	2
Point out that articles often include quotes and ask if anyone found quotes in the articles?	1	2

Additional comments: _____

[ACTIVITY 1] _ Check here if this activity is observed*

Did the teacher:

	<u>Yes</u>	<u>No</u>
Ask the students or record everything they ate in a 24-hour period?	1	2
Have students estimate serving size each time in their diaries?	1	2

Additional comments: _____

[ACTIVITY 2] _ Check here if this activity is observed

Did the teacher:

	<u>Yes</u>	<u>No</u>
Remind students that components of combination foods are from several food groups?	1	2
Ask students the number of recommended servings for each group?	1	2
Ask students from what food groups they eat enough servings?	1	2
Ask students from what food groups they eat too many servings?	1	2
Ask students from what food groups they eat not enough servings?	1	2

* Observe activity 1 in conjunction with activity 2.

Did the students:

Write a newspaper article about their diets compared to the Food Guide Pyramid?
 Categorize the foods in their diaries by food group?
 Record the number of servings they ate from each group?
 Write an article about their eating practices?

<u>Yes</u>	<u>No</u>
1	2
1	2
1	2
1	2

Additional comments: _____

[ACTIVITY 3] _ Check here if this activity is observed

Did the teacher:

Review the benefits of a healthy lifestyle?
 Ask students to choose a benefit to motivate themselves for a healthy lifestyle?
 Encourage students to share goals with their families?
 Have students set dietary goals with at least one improvement?

<u>Yes</u>	<u>No</u>
1	2
1	2
1	2
1	2

Additional comments: _____

[WRAP IT UP]

Did the teacher:

Ask students to keep a food diary for a week comparing the Food Guide Pyramid?
 Ask students if they met their dietary goals?

<u>Yes</u>	<u>No</u>
1	2
1	2

Additional comments: _____

III. CLASSROOM DYNAMICS

Next, indicate the extent to which the teacher engaged in each of the behaviors listed below. Use the scale from 1 to 3 where one means the teacher did not engage in the behavior "at all" and 3 means the teacher exhibited the behavior "a great deal."

To what extent does the teacher:	<u>Not at all</u>	<u>Somewhat</u>	<u>A great Deal</u>	<u>N/A</u>
Engage the students in the discussion?	1	2	3	9
Facilitate student participation?	1	2	3	9
Encourage questions?	1	2	3	9
Answer questions accurately?	1	2	3	9
Seem comfortable with the curriculum content?	1	2	3	9
Create a positive atmosphere about healthy eating?	1	2	3	9

Please indicate whether or not the teacher does each of the following.

Offer verbal/nonverbal praise to students?
 Offer non-food incentives?
 Offer food incentives?
 Identify the benefits of adopting health eating behaviors?
 Use class discussions and/or small group exercises to discuss healthy eating habits?

<u>Yes</u>	<u>No</u>
1	2
1	2
1	2
1	2
1	2

Did disruptive students affect lesson delivery?

1	2
---	---

If yes, please describe.

Additional comments: _____

IV. NUTRITION INFLUENCES (For Lesson 3 of Module 3-5)

Did the teacher:

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Convey concepts illustrated in the Food Guide Pyramid such as variety, moderation, balance, serving size, # of servings needed daily, include foods from all groups everyday?	1	2	9
Encourage students to become advocates of good nutrition?	1	2	9

V. OVERVIEW

To what extent:

	<u>Not at all</u>	<u>Somewhat</u>	<u>A great deal</u>
Is the teacher adhering to the curriculum content of the lesson plan?	1	2	3
Are the activities being conducted as described of the lesson plan?	1	2	3
Are audiovisual resources being used in accordance with the lesson plan?	1	2	3
Are the teaching materials required being used in accordance with the lesson plan?	1	2	3

Additional comments: _____

PROTOCOL FOR OBSERVATIONS OF FOOD SERVICE PERSONNEL

Purpose of observations: To generate useful information on practices used in preparation of foods for the National School Lunch Program. Observations will help validate menu analyses and supplement information from plate waste analyses and structured interviews.

Who will be observed?: Food preparers for all sites involved in outcome evaluations. These people may be located in central, combination, or on-site kitchens. The goal will be to observe as many food preparers as possible at each site.

Who will be the observer?: A trained interviewer/observer will complete the observations as part of the process evaluation.

When will observations take place?: Observations will take place on one day during the pre and post-test intervention data collection period. The exact day will be decided between the observer and the kitchen manager.

What will be observed?: The focus of the observations will be food preparer's fidelity to the recipes used for school lunch. Priority will be given to foods which can have variable preparation techniques, such as cooked vegetables, soups, meats, fish, and poultry.

Some indications of whether recipes are being followed include:

- are recipes displayed during preparation, or do food preparers rely on memory?
- if recipes are displayed do food preparers look at them?
- are measuring instruments used for ingredients, or are estimations used?
- does the kitchen have a central ingredient disbursement system, where one person measures and distributes ingredients for all recipes prepared that day?
- are standardized measures used for preparing individual servings?
- does the kitchen manager or director observe the food preparation?

The observer will ask questions as needed to clarify the actions observed. This will be done in a non-threatening manner and at the end of the observations.

Additional information that is useful includes observations of:

- interactions of personnel
- posters, noting if there are any on Dietary Guidelines or Team Nutrition

How will observations take place?: To facilitate the collection of useful information, the following protocol will be used:

The observer will be introduced to kitchen personnel by the manager as part of the Team Nutrition staff. This message will be reinforced by the observer using a clipboard with a Team Nutrition logo. It is important to be overt in portraying who is the observer, and to leverage the positive association with the project.

The manager will explain that the purpose of the observations is to help Team Nutrition design more effective training materials for food service workers. This is partial disclosure of the intent, and likely to appeal to food service personnel.

To ensure confidentiality, the manager and observer will stress that they are not being evaluated, and no names will be used in the report. It will be explained that the notes the observer is taking is to help generate ideas for more classroom activities that will "bring the kitchen closer" to students.

The observer will stand out of the way of traffic but close enough to follow the use of ingredients and measuring instruments. Questions about food preparation practices will be asked in a non-threatening manner at the end of the observation period. If the food preparers ask why this is of interest, the observer can explain "we want to learn from you."

After the kitchen staff have finished preparations for the day, the observer will thank everyone for their time and ideas, and thank the kitchen manager for his or her assistance.

How will information be reported?: The report of the observations will be guided by the "Food Preparation Observation Report" form (attached). It will be stressed to observers that this form can be used to collect information during the observation period, but it is important that the kitchen staff not see the form. Therefore, it is advisable to take notes on separate pages when talking to kitchen staff, and transferring this information to the form when you have some distance.

How will the information be analyzed?: The responses on the observation form will be used to discern the degree to which recipes are followed and healthful food preparation practices are emphasized for each site. This will inform the results of the menu analysis and plate waste analysis.

The responses will also be reviewed to discern similarities and differences between districts. Themes and patterns that emerge from open-ended responses will be noted. Informative quotes will be used to illustrate key concepts.

FOOD PREPARATION OBSERVATION REPORT

Use this form to help organize your observations of food preparation. Please note that this is the minimal information needed to help discern whether recipes are being followed accurately. Additional observations or comments are encouraged.

- I. **Use of recipes and standard measures.** Describe practices that you observed which illustrates whether or not recipes are being followed accurately. Are these practices used by some or all of the staff? Do they apply to some recipes and not others?

(i) Does the kitchen have a central ingredient disbursement system, where one or two people measure and distribute ingredients for all recipes prepared that day?

___ No
___ Yes: (describe)

(ii) Are recipes displayed during preparation, or do food preparers rely on memory?

(iii) Describe any deviations from the recipe.

(a) ingredients (were any ingredients left out; were other ingredients like salt or fat added?)

(b) preparation techniques (did the food preparer use the same preparation and cooking techniques described in the recipe?):

(iv) Are measuring instruments used for ingredients, or are estimations used?

(v) After the food is prepared, are standardized measures used for preparing individual servings?

_____ No _____ Yes (describe)

II. Healthful practices. Describe if foods are prepared using ingredients and techniques that lower fat and retain freshness and nutrients.

(i) Are low-fat practices used (e.g., substituting lower-fat ingredients for animal fats, trimming meat, not frying, etc.)

(ii) Are fruits and vegetables prepared to make them healthful and appealing?

(a) is fresh produce used?

(b) if cooked, does the cooking technique retain freshness?

(c) are salt or fat added? (if so, note if this was in the recipe)

(d) are they displayed attractively?

III. Interactions. Describe interactions between kitchen staff with each other and with the manager. Use direct quotes when possible.

Does the manager or director observe the food preparers?

_____ No _____ Yes (describe)

Do the food preparers consult each other or their manager on recipes or ingredients?

_____ No _____ Yes (describe)

Do they talk about the quality, taste, or healthfulness of food?

_____ No _____ Yes (describe)

Do they talk about the students' reaction to food?

_____ No _____ Yes (describe)

- IV. External Cues.** Describe any posters on the wall, near the entrance to the kitchen, or by the staff's lockers. Are any of these nutrition-related? Note particularly if there are posters on the Dietary Guidelines or Team Nutrition.

Please note additional observations, quotes, or comments collected that you feel are useful to the Team Nutrition project.

SURVEY INSTRUMENTS

TEAM NUTRITION PROGRAM STUDY

PHASE 1

TEACHERS' PRETEST QUESTIONNAIRE

Name of School: _____

Name of Teacher: _____

Grade: _____

Number of Students in Class: _____

Disclosure Statement

All information obtained in this study is strictly confidential. No one outside of the research staff will see your answers, and study results will be published only as statistical summaries. Your participation in this study is completely voluntary. You may refuse to participate or to answer the questions as you choose. Your decision will not affect you or this school.
OMB Approval No. 0584-0469 (Exp. 3/31/97)

Team Nutrition Program Study

(Phase 1)

Teachers' Pretest Questionnaire

This study is part of the Team Nutrition evaluation in which your school is participating. Your responses will help ensure that the evaluation is comprehensive and accurate. We estimate this form will take 30 minutes or less to complete.

Tell us a little about yourself.

1. What is your gender?

Male 1
Female..... 2

2. What is your age category?

Under 30, 1
Between 30 and 40,..... 2
Between 41 and 50, or 3
Over 50?..... 4

3. Are you....

White, 1
African-American or Black,..... 2
Asian or Pacific Islander, or 3
American Indian or Alaskan native?..... 4
Other (specify)..... 5

4. Are you Hispanic?

Yes 1
No..... 2

5. What is your highest level of education?

College graduate 1
Some graduate school 2
Graduate degree 3

6. How long have you been teaching at the elementary school level?

- Less than 1 year 1
- 1 to 3 years 2
- 4 to 5 years 3
- 6 to 10 years 4
- More than 10 years 5

7. Do you teach a self-contained classroom (i.e., are you responsible for teaching all or most subjects for one class)?

- Yes 1
- No 2

If no, please describe your teaching assignment: _____

8. Have you had any training (such as classes) in teaching children about nutrition?

- Yes 1
- No 2

If yes, please describe the training: _____

The next few questions are about the Food Guide Pyramid, developed to help Americans eat a healthy diet.

9. At least how many servings of fruits and vegetables do you think a person should eat each day for good health? (*Circle one.*)

- One 1
- Two 2
- Three 3
- Five 4
- Seven 5
- Don't know 8

10. For each of the foods below, indicate if the item would count as a serving of a fruit or vegetable according to the Food Guide Pyramid? (*Circle one on each line.*)

	Yes	No	Don't Know
a. A half cup of orange juice	1	2	8
b. A half cup of cooked carrots.....	1	2	8
c. A half cup of lettuce	1	2	8
d. A half cup of steamed broccoli	1	2	8

11. From which food group in the pyramid should you eat the most servings a day? (*Circle one.*)

Bread, cereal, rice and pasta	1
Vegetable	2
Fruit.....	3
Meat, poultry, fish, eggs, dry beans, and nuts	4
Milk, yogurt and cheese.....	5
Don't know	8

12. You should eat at least how many servings of breads and cereals each day? (*Circle one.*)

Three	1
Four.....	2
Five	3
Six	4
Don't know	8

13. For each of the foods below, indicate if the item would be placed in the "tip" of the Food Guide Pyramid? (*Circle one on each line.*)

	Yes	No	Don't Know
a. Pepperoni	1	2	8
b. Donut	1	2	8
c. Bacon	1	2	8
d. Sour cream	1	2	8

14. The **best** choice for a low-fat diet would be.... (*Circle one.*)

Whole milk	1
Low-fat yogurt	2
Cheese.....	3
Skim milk.....	4
Don't know	8

15. Which of the following is the best snack choice for a low-fat diet? (*Circle one.*)

Cookies	1
Fruit roll-ups	2
Pie	3
Ice cream.....	4
Don't know	8

16. For each of the foods below, circle the group on the Food Guide Pyramid where it belongs. (*Circle one on each line.*)

		Milk	Meat	Vegetable	Fruit	Grain	Don't Know
a.	Orange juice	1	2	3	4	5	8
b.	Peanut butter	1	2	3	4	5	8
c.	Breakfast cereal.....	1	2	3	4	5	8
d.	Yogurt	1	2	3	4	5	8
e.	Corn	1	2	3	4	5	8

17. For the following questions, please indicate whether you strongly agree, agree, disagree, or strongly disagree. (*Circle one on each line.*)

		Strongly agree	Agree	Disagree	Strongly disagree
a.	Any foods can be included in a healthy diet.....	1	2	3	4
b.	A healthy diet does not have to include a variety of foods	1	2	3	4
c.	Some people are born to be fat and some thin; there is not much you can do to change this	1	2	3	4
d.	Starchy foods, like bread, potatoes, and rice, make people fat	1	2	3	4
e.	There are so many recommendations about healthy ways to eat, it's hard to know what to believe	1	2	3	4
f.	What you eat can make a big difference in your chance of getting a disease, like heart disease or cancer.....	1	2	3	4
g.	The things I eat and drink now are healthy so there is no reason for me to make changes	1	2	3	4
h.	What my students see me eat and drink will affect their dietary behavior.....	1	2	3	4

These next few questions are about some of your knowledge and behaviors related to nutrition. (Questions 18 through 25 are optional. Although you are not required to respond, we encourage you to answer the questions.)

18. Have you used the Nutrition Facts food labels to help you choose what to eat?

Yes 1
 No..... 2 (Skip to question 24)

19. Do the Nutrition Facts food labels make it easier for you to choose healthy foods?

Yes 1
 No..... 2

20. When you use the Nutrition Facts food labels, do you make healthier food choices?

Yes 1
 No..... 2

21. To be considered a "good" source of calcium, a food should provide at least what percent of the daily value for calcium?

5 percent..... 1
 10 percent..... 2
 20 percent..... 3
 30 percent..... 4
 Don't know 8

22. Is a cookie with a percent daily value for fat of 8 percent a low-fat snack choice?

Yes 1
 No..... 2
 Don't know 8

23. Which one of the following types of information is never found on the Nutrition Facts food label? (Circle one.)

Percent daily value for fat..... 1
 Calories from fat 2
 Grams of fat 3
 Percent daily value for sugar 4
 Grams of sugar..... 5
 Don't know 8

24. To you personally, is it very important, somewhat important, not too important, or not at all important to.... (Circle one on each line.)

	Very important	Somewhat important	Not too important	Not at all important	Don't know
a. Choose a diet with plenty of fruits and vegetables?.....	1	2	3	4	8
b. Eat a variety of foods?	1	2	3	4	8
c. Maintain a healthy weight?.....	1	2	3	4	8
d. Choose a diet low in fat?	1	2	3	4	8
e. Choose a diet with plenty of breads, cereals, rice, and pasta?	1	2	3	4	8
f. Eat at least two servings of dairy products daily?.....	1	2	3	4	8

25. Please indicate the term that most closely describes your habits when you eat the following foods. (Circle one on each line. If you do not eat the foods listed, circle "DOES NOT APPLY.")

	Almost Always	Often	Some- times	Rarely	Never	DOES NOT APPLY
a. Eat turkey bologna <u>instead</u> of regular bologna.....	1	2	3	4	5	0
b. Use skim or 1% milk <u>instead</u> of 2% or whole milk?.....	1	2	3	4	5	0
c. Eat low-fat cheeses, when you eat cheese?	1	2	3	4	5	0
d. Eat ice milk, frozen yogurt, or sherbet <u>instead</u> of ice cream?	1	2	3	4	5	0
e. Use low-calorie <u>instead</u> of regular salad dressing?.....	1	2	3	4	5	0
f. Have fruit for dessert when you eat dessert?	1	2	3	4	5	0
g. Eat fish or poultry <u>instead</u> of meat (e.g., beef, pork, or lamb)?	1	2	3	4	4	0

		Almost Always	Often	Some- times	Rarely	Never	DOES NOT APPLY
h.	Eat whole-grain bread <u>instead</u> of white bread	1	2	3	4	5	0
i.	Drink fruit juices as beverages <u>instead</u> of soda	1	2	3	4	5	0
j.	Eat low-fat snacks such as fruits, vegetables, and pretzels, instead of fatty snacks	1	2	3	4	5	0

(Please answer all of the remaining questions.)

26. For the following questions please indicate whether you strongly agree, agree, disagree, or strongly disagree. (Circle one on each line.)

		Strongly agree	Agree	Disagree	Strongly disagree
a.	I am not interested in teaching about nutrition	1	2	3	4
b.	The students in my classroom like other subjects more than they like nutrition.....	1	2	3	4
c.	Adequate nutrition curricular materials are available to me	1	2	3	4
d.	The nutrition curricular materials available to me are appealing to my students.....	1	2	3	4
e.	I do not try to influence what foods my students select in the lunchroom.....	1	2	3	4
f.	I do not try to influence the food choices my students make outside of school	1	2	3	4
g.	I intend to incorporate nutrition <u>more often</u> into my classroom activities.....	1	2	3	4
h.	I try to arrange some nutrition activities for my students with our school's food service staff.....	1	2	3	4
i.	I intend to work more closely with our school's food service staff to teach about good nutrition	1	2	3	4
j.	I think that the food choices offered in our school's lunchroom help children eat a healthy lunch	1	2	3	4
k.	I want to incorporate nutrition activities in my classroom	1	2	3	4

	Strongly agree	Agree	Disagree	Strongly disagree
l. There isn't time to teach more about nutrition in the classroom given all of the other demands.....	1	2	3	4
m. I would not include more nutrition activities even if I knew <u>what</u> to do	1	2	3	4
n. If children engage in nutrition activities in the classroom they tend to choose healthier foods to eat	1	2	3	4
o. Teaching nutrition can reinforce other subjects that I teach my students.....	1	2	3	4
p. My school district does not give me time and resources to teach nutrition.....	1	2	3	4
q. Good nutrition can affect students' class performance	1	2	3	4
r. The classroom is not the appropriate place to teach students about nutrition.....	1	2	3	4
27. <u>Thus far this school year</u> , about how many hours have you spent teaching nutrition to your students (<u>do not</u> include time you plan on teaching nutrition)? (<i>Circle one.</i>)				
None	1			
1 to 2 hours	2			
3 to 5 hours	3			
6 to 10 hours	4			
More than 10 hours	5			
28. This school year, have you worked with your school's food service staff, either in the classroom or cafeteria, to help reinforce classroom lessons about good nutrition?				
Yes	1			
No.....	2			
29. How much time have you spent reviewing the new scholastic Team Nutrition classroom materials this school year? (<i>Circle one.</i>)				
None yet.....	1			
Less than 1 hour.....	2			
1 to 2 hours	3			
2 to 4 hours	4			
More than 4 hours	5			

Thank you for your answers!

TEAM NUTRITION PROGRAM STUDY

PHASE 1

TEACHERS' INTERVENTION POSTTEST QUESTIONNAIRE

Grade: _____

Number of Students in Class: _____

Disclosure Statement

All information obtained in this study is strictly confidential. No one outside of the research staff will see your answers, and study results will be published only as statistical summaries. Your participation in this study is completely voluntary. You may refuse to participate or to answer the questions as you choose. Your decision will not affect you or this school.
OMB Approval No. 0584-0469 (Exp. 3/31/97)



USDA Team Nutrition/Teacher Intervention Posttest

This survey is part of the Team Nutrition evaluation in which your school is participating. Your responses will help ensure that the evaluation is comprehensive and accurate. We estimate this form will take 30 minutes or less to complete.

The first few questions are about the Food Guide Pyramid, developed to help Americans eat a healthy diet.

1. At least how many servings of fruits and vegetables do you think a person should eat each day for good health? (*Circle one.*)

One	1
Two	2
Three	3
Five	4
Seven	5
Don't know	8

2. For each of the foods below, indicate if the item would count as a serving of a fruit or vegetable according to the Food Guide Pyramid? (*Circle one on each line.*)

	Yes	No	Don't Know
a. A half cup of orange juice	1	2	8
b. A half cup of cooked carrots	1	2	8
c. A half cup of lettuce	1	2	8
d. A half cup of steamed broccoli	1	2	8

3. From which food group in the pyramid should you eat the most servings a day? (*Circle one.*)

Bread, cereal, rice and pasta	1
Vegetable	2
Fruit	3
Meat, poultry, fish, eggs, dry beans, and nuts	4
Milk, yogurt and cheese	5
Don't know	8

4. You should eat at least how many servings of breads and cereals each day? (*Circle one.*)

Three	1
Four	2
Five	3
Six	4
Don't know	8

5. For each of the foods below, indicate if the item would be placed in the "tip" of the Food Guide Pyramid? *(Circle one on each line.)*

		Yes	No	Don't Know
a.	Pepperoni	1	2	8
b.	Donut	1	2	8
c.	Bacon	1	2	8
d.	Sour cream.....	1	2	8

6. The best choice for a low-fat diet would be: *(Circle one.)*

Whole milk.....	1
Lowfat yogurt	2
Cheese	3
Skim milk	4
Don't know	8

7. Which of the following is the best snack choice for a low-fat diet? *(Circle one.)*

Cookies	1
Fruit roll-ups.....	2
Pie	3
Ice cream	4
Don't know	8

8. For each of the foods below, circle the group on the Food Guide Pyramid where it belongs. *(Circle one on each line.)*

		Milk	Meat	Vegetable	Fruit	Grain	Don't Know
a.	Orange juice	1	2	3	4	5	8
b.	Peanut butter	1	2	3	4	5	8
c.	Breakfast cereal.....	1	2	3	4	5	8
d.	Yogurt	1	2	3	4	5	8
e.	Corn.....	1	2	3	4	5	8

9. For the following questions, please indicate whether you strongly agree, agree, disagree, or strongly disagree. (Circle one on each line.)

	Strongly agree	Agree	Disagree	Strongly disagree
a. Any foods can be included in a healthy diet....	1	2	3	4
b. A healthy diet does not have to include a variety of foods	1	2	3	4
c. Some people are born to be fat and some thin; there is not much you can do to change this....	1	2	3	4
d. Starchy foods, like bread, potatoes, and rice, make people fat	1	2	3	4
e. There are so many recommendations about healthy ways to eat, it's hard to know what to believe	1	2	3	4
f. What you eat can make a big difference in your chance of getting a disease, like heart disease or cancer.....	1	2	3	4
g. The things I eat and drink now are healthy so there is no reason for me to make changes	1	2	3	4
h. What my students see me eat and drink will affect their dietary behavior	1	2	3	4

These next few questions are about some of your knowledge and behaviors related to nutrition. (Questions 10 through 21 are optional. Although you are not required to respond, we encourage you to answer the questions.)

10. Have you used the Nutrition Facts food labels to help you choose what to eat?

Yes 1
No..... 2 → (Skip to question 16)

11. Do the Nutrition Facts food labels make it easier for you to choose healthy foods?

Yes 1
No 2

12. When you use the Nutrition Facts food labels, do you make healthier food choices?

Yes 1
No 2

13. To be considered a "good" source of calcium, a food should provide at least what percent of the daily value for calcium?

Five percent.....	1
Ten percent	2
Twenty percent.....	3
Thirty percent.....	4
Don't know	8

14. Is a cookie with a percent daily value for fat of 8 percent a low-fat snack choice?

Yes.....	1
No.....	2
Don't know	8

15. Which one of the following types of information is never found on the Nutrition Facts food label? (*Circle one.*)

Percent daily value for fat.....	1
Calories from fat.....	2
Grams of fat.....	3
Percent daily value for sugar	4
Grams of sugar	5
Don't know	8

16. To you personally, is it very important, somewhat important, not too important, or not at all important to.... (*Circle one on each line.*)

	Very important	Somewhat important	Not too important	Not at all important	Don't know
a. Choose a diet with plenty of fruits and vegetables?	1	2	3	4	8
b. Eat a variety of foods?.....	1	2	3	4	8
c. Maintain a healthy weight?	1	2	3	4	8
d. Choose a diet low in fat?.....	1	2	3	4	8
e. Choose a diet with plenty of breads, cereals, rice, and pasta?.....	1	2	3	4	8
f. Eat at least two servings of dairy products daily?	1	2	3	4	8

17. Please indicate the term that most closely describes your habits when you eat the following foods. (Circle one on each line. If you do not eat the foods listed, circle "DOES NOT APPLY.")

	Almost Always	Often	Some- times	Rarely	Never	DOES NOT APPLY
a. Eat turkey bologna <u>instead</u> of regular bologna.....	1	2	3	4	5	0
b. Use skim or 1% milk <u>instead</u> of 2% or whole milk?	1	2	3	4	5	0
c. Eat low-fat cheeses, when you eat cheese?	1	2	3	4	5	0
d. Eat ice milk, frozen yogurt, or sherbet <u>instead</u> of ice cream?	1	2	3	4	5	0
e. Use low-calorie <u>instead</u> of regular salad dressing?	1	2	3	4	5	0
f. Have fruit for dessert when you eat dessert?	1	2	3	4	5	0
g. Eat fish or poultry <u>instead</u> of meat (e.g., beef, pork, or lamb)?	1	2	3	4	4	0
h. Eat whole-grain bread <u>instead</u> of white bread	1	2	3	4	5	0
i. Drink fruit juices as beverages <u>instead</u> of soda	1	2	3	4	5	0
j. Eat low-fat snacks such as fruits, vegetables, and pretzels, instead of fatty snacks	1	2	3	4	5	0

18. Compared to three months ago, how much of the following foods are you eating? (*Circle one on each line.*)

		A lot more	A little more	No change	A little less	A lot less	Don't know
a.	Vegetables?	1	2	3	4	5	8
b.	Fruits?	1	2	3	4	5	8
c.	Grains?	1	2	3	4	5	8

19. Compared to three months ago, is there... (*Circle one.*)

A lot more variety in the foods you eat.....	1
A little more variety in the foods you eat	2
No change in the variety of the foods you eat.....	3
A little less variety in the foods you eat	4
A lot less variety in the foods you eat.....	5

20. Compared to three months ago, in your diet, is there ... (*Circle one.*)

A lot less fat	1
A little less fat	2
About the same amount of fat as before	3
A little more fat	4
A lot more fat.....	5

21. Compared to three months ago, do you read food labels... (*Circle one.*)

A lot more often.....	1
A little more often	2
About the same amount of time as before	3
A little less often	4
A lot less often	5

(PLEASE ANSWER ALL OF THE REMAINING QUESTIONS)

22. For the following questions please indicate whether you strongly agree, agree, disagree, or strongly disagree. (Circle one on each line.)

	Strongly agree	Agree	Disagree	Strongly disagree
a. I am not interested in teaching about nutrition	1	2	3	4
b. The students in my classroom like other subjects more than they like nutrition	1	2	3	4
c. Adequate nutrition curricular materials are available to me	1	2	3	4
d. The nutrition curricular materials available to me are appealing to my students	1	2	3	4
e. I do not try to influence what foods my students select in the lunchroom	1	2	3	4
f. I do not try to influence the food choices my students make outside of school	1	2	3	4
g. I intend to incorporate nutrition <u>more often</u> into my classroom activities	1	2	3	4
h. I try to arrange some nutrition activities for my students with our school's food service staff	1	2	3	4
i. I intend to work more closely with our school's food service staff to teach about good nutrition	1	2	3	4
j. I think that the food choices offered in our school's lunchroom help children eat a healthy lunch	1	2	3	4
k. I want to incorporate nutrition activities in my classroom	1	2	3	4
l. There isn't time to teach more about nutrition in the classroom given all of the other demands	1	2	3	4
m. I would not include more nutrition activities even if I knew <u>what</u> to do	1	2	3	4
n. If children engage in nutrition activities in the classroom they tend to choose healthier foods to eat	1	2	3	4
o. Teaching nutrition can reinforce other subjects that I teach my students	1	2	3	4
p. My school district does not give me time and resources to teach nutrition	1	2	3	4
q. Good nutrition can affect students' class performance	1	2	3	4
r. The classroom is not the appropriate place to teach students about nutrition	1	2	3	4

23. Thus far this school year, about how many hours have you spent teaching nutrition to your students (do not include time you plan on teaching nutrition)? (Circle one.)

None	1
One to two hours	2
Three to five hours	3
Six to ten hours	4
More than ten hours	5

24. This school year, have you worked with your school's food service staff, either in the classroom or cafeteria, to help reinforce classroom lessons about good nutrition?

Yes	1
No	2

The next several questions ask about nutrition-related messages, events, and activities in the media and in your school and community.

25. Since March 1, have you noticed any changes in the foods offered in your school cafeteria?

Yes, the choices are healthier now	1
Yes, the choices are less healthy now	2
No	3
Don't know	8

26. Have you seen the Disney public service announcement on nutrition for children on your local media?

Yes	1
No	2

27. Since March 1, have you noticed Team Nutrition mentioned in the following media? (Circle one on each line.)

	Yes	No	Don't know
a. On television	1	2	8
b. On radio	1	2	8
c. In the newspaper	1	2	8

28. Since March 1, have there been any school-wide events related to Team Nutrition?

Yes	1
No	2 → (Skip to question 39)
Don't know	3

29. Did the school-wide Team Nutrition events positively reinforce your classroom activities?

Yes..... 1
No..... 2
Don't know 8

30. Did you participate in these school-wide Team Nutrition events?

Yes..... 1
No..... 2
Don't know 8

31. Did your students participate in these school-wide Team Nutrition events?

Yes..... 1
No..... 2 → (Skip to question 33)
Don't know 8

32. Did your students like the school-wide Team Nutrition events?

Yes..... 1
No..... 2
Don't know 8

33. Since March 1, have there been any events in your community related to Team Nutrition?

Yes..... 1
No..... 2
Don't know 8

34. Since March 1, have there been any other nutrition-related events in your community?

Yes..... 1
No..... 2
Don't know 8

35. Did you participate in these Team Nutrition or other community events?

Yes..... 1
No..... 2
No events..... 3
Don't know 8

36. Did your students participate in these Team Nutrition or other community events?

Yes..... 1
 No..... 2
 No events..... 3
 Don't know 8

37. For the following questions please indicate whether you strongly agree, agree, disagree, or strongly disagree. (Circle one on each line.)

	Strongly agree	Agree	Disagree	Strongly disagree
a. The Scholastic materials were appropriate for the developmental level of the students in my class	1	2	3	4
b. The Scholastic materials were appropriate for the educational levels of the students in my class	1	2	3	4
c. The Scholastic materials were culturally appropriate for the students in my class	1	2	3	4
d. The <u>content</u> of the Scholastic materials did not provide sufficient background for my nutrition-related teaching needs	1	2	3	4
e. The classroom <u>activities</u> met my nutrition-related teaching needs.....	1	2	3	4
f. The Scholastic materials are no better than other nutrition teaching materials I have used.....	1	2	3	4
g. The activities suggested in the Scholastic materials were not appropriate for my classroom	1	2	3	4
h. I had to modify many of the suggested activities to make them adequate for my classroom.....	1	2	3	4
i. I developed some activities of my own to teach about Team Nutrition.....	1	2	3	4
j. Having the Scholastic materials makes it easy to teach about nutrition	1	2	3	4
k. I will teach more about good nutrition in the future if I can use the Scholastic materials again	1	2	3	4
l. The time required to prepare to teach the Scholastic lessons was reasonable (considering that they were new to me).....	1	2	3	4
m. The time required to teach the Scholastic lessons was reasonable	1	2	3	4

38. How satisfied were you with the Scholastic materials overall? *(Circle one.)*

Very satisfied	1
Somewhat satisfied	2
Not very satisfied	3
Not at all satisfied	4
Don't know	8

39. Thinking about the training you received on the scholastic materials... *(Circle one on each line.)*

	Yes	No
a. Was the training relevant to teaching the lessons?	1	2
b. Was the training necessary to teach the lessons?	1	2
c. Did the training improve your ability to teach the lessons?	1	2

40. How much did you use the following components of the Scholastic materials for teaching nutrition? *(Circle one on each line.)*

	Used less than recommended	Used as much as recommended in materials	Used more than recommended
a. Student reproducibles	1	2	3
b. Student magazines	1	2	3
c. Family newsletter	1	2	3
d. Parent reproducibles	1	2	3
e. Video	1	2	3
f. Posters	1	2	3

41. How much did you like using the following components of the Scholastic materials for teaching nutrition? *(Circle one on each line.)*

	Very much	Somewhat	Not at all	Did not use
a. Student reproducibles	1	2	3	4
b. Student magazines	1	2	3	4
c. Family newsletter	1	2	3	4
d. Parent reproducibles	1	2	3	4
e. Video	1	2	3	4
f. Posters	1	2	3	4

42. How much did your students like the following components of the Scholastic materials? (*Circle one on each line.*)

	Very much	Somewhat	Not at all	Did not use
a. Student reproducibles.....	1	2	3	4
b. Student magazine.....	1	2	3	4
c. Family newsletter	1	2	3	4
d. Video	1	2	3	4
e. Posters.....	1	2	3	4
f. Activities for lesson 1: Food Grows	1	2	3	4
g. Activities for lesson 2: Bodies Grow	1	2	3	4
h. Activities for lesson 3: Read all About It	1	2	3	4
i. Activities for lesson 4: Label Lowdown	1	2	3	4
j. Activities for lesson 5: Fat Facts Feature	1	2	3	4
k. Activities for lesson 6: Sense-ational Food	1	2	3	4
l. Activities for lesson 7: The World on a Plate	1	2	3	4
m. Activities for lesson 8: The Great Nutrition Adventure.....	1	2	3	4

43. How effective were the lunchroom link activities in supporting your nutrition education efforts? (*Circle one.*)

Very effective.....	1
Somewhat effective	2
Not at all effective	3
Did not work with the cafeteria	4

44. How many of the "parent reproducibles" from the Scholastic materials did you give your students to take home? (*Circle one.*)

None.....	1
One to two	2
Three to four.....	3
Five to six	4
Seven to eight.....	5

45. Did you receive any feedback about these materials from parents?

Yes.....	1
No.....	2
Don't know	3

46. To what extent are most parents of your students involved in nutrition take-home activities and homework assignments? *(Circle one.)*

Very much involved.....	1
Somewhat involved	2
Not at all involved	3
Don't know	8

47. How easy has it been to recruit parent volunteers for nutrition classroom activities? *(Circle one.)*

Very easy.....	1
Somewhat easy	2
Not at all easy	3
Have not tried to recruit parent volunteers.....	4

Thank you for your answers!



USDA Team Nutrition
Parents' Pretest Questionnaire

SECTION A: CONTACT

PROGRAMMER NOTE

SECTION A (CONTACT) WILL BE COMPLETED HARDCOPY USING THE CALL RECORD AND THE CONTACT FORM.

PARENTS' PRETEST QUESTIONNAIRE
CONTACT FORM

CATI ID: |_|_|_|_|_|_|_|_|_|

CONTACT: _____ PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|

CONTACT: _____ PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|

CONTACT: _____ PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|

CONTACT: _____ PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|

A1. Hello, my name is _____ from Westat, Inc. and I'm calling for the U.S. Department of Agriculture. May I speak to _____ {NAME OF PARENT}?

- | | | |
|---|---|---|
| AVAILABLE | 1 | GO TO INTRODUCTION CARD |
| NOT AVAILABLE, SAME
NUMBER..... | 2 | When is a good time for me to call back?
RECORD APPOINTMENT ON CALL RECORD
Thank you, I'll call back then.
ENTER 3 IN CATI, CODE AS CALLBACK
ON CALL RECORD |
| NOT AVAILABLE, DIFFERENT
NUMBER..... | 3 | What is that telephone number?
RECORD NEW NUMBER ON CONTACT
FORM
When is a good time for me to call you at
that number?
RECORD APPOINTMENT ON CALL RECORD
Thank you, I'll call you back then.
ENTER 3 IN CATI, CODE AS CALLBACK
ON CALL RECORD. |
| RESPONDENT NOT KNOWN ..
NONWORKING/ | 4 | GO TO A2 |
| DISCONNECTED | 5 | ENTER 4 IN CATI, CODE AS 10 ON CALL
RECORD |
| NUMBER CHANGED..... | 6 | RECORD NEW NUMBER ON CONTACT
FORM. ENTER 2 IN CATI AND REDIAL WITH
NEW NUMBER. CODE AS 12 ON CALL
RECORD. |

[IF ASKED: I'm calling about a study we are conducting for USDA's Team Nutrition Project.]

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A2. I'm trying to reach (|_|_|_|) |_|_|_|-|_|_|_|_|. Did I dial the correct telephone number?

- YES 1 I'm sorry. Thank you very much.
ENTER 4 IN CATI, CODE AS 10 ON CALL RECORD
- NO 2 I'm sorry, I seem to have dialed the
the wrong number. ENTER 2 IN
CATI AND REDIAL NUMBER. IF WRONG
NUMBER REACHED 2ND TIME, ENTER 4 IN
CATI, CODE AS 10 ON CALL RECORD

A3. Are you the person who is most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits?

- YES..... 1
- NO 2 GO TO A5

A4. What is your relationship to _____ {NAME OF STUDENT}?

- | | | | |
|-----------------------|----|---|-------------------------|
| MOTHER..... | 1 | } | COMPLETE CATI INTERVIEW |
| FATHER..... | 2 | | |
| MALE GUARDIAN | 3 | | |
| FEMALE GUARDIAN..... | 4 | | |
| UNCLE..... | 5 | | |
| AUNT | 6 | | |
| GRANDFATHER | 7 | | |
| GRANDMOTHER..... | 8 | | |
| BROTHER..... | 9 | | |
| SISTER | 10 | | |
| OTHER (SPECIFY) | 91 | } | |
| REFUSAL | -7 | | |
| DON'T KNOW | -8 | | |

A5. Who is the person most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits?

FIRST NAME: _____ LAST NAME: _____

A6. And what is _____ {NAME RECORDED IN A5}'s relationship to _____ {NAME OF STUDENT}?

- | | |
|-----------------------|----|
| MOTHER..... | 1 |
| FATHER..... | 2 |
| MALE GUARDIAN | 3 |
| FEMALE GUARDIAN..... | 4 |
| UNCLE..... | 5 |
| AUNT | 6 |
| GRANDFATHER | 7 |
| GRANDMOTHER..... | 8 |
| BROTHER..... | 9 |
| SISTER | 10 |
| OTHER (SPECIFY) | 91 |
| REFUSAL | -7 |
| DON'T KNOW | -8 |

A7. May I please speak to _____ {NAME RECORDED IN A5}?

AVAILABLE 1 GO TO INTRODUCTION CARD
NOT AVAILABLE, SAME

NUMBER..... 2 When is a good time for me to call back?
Thank you, I'll call back then.
ENTER 3 IN CATI, CODE AS CALLBACK
ON CALL RECORD

NOT AVAILABLE, DIFFERENT
NUMBER..... 3 What is _____ {NAME RECORDED
IN A5}'s telephone number?
RECORD NAME AND NUMBER ON CALL
RECORD.

Thank you. I'll call _____ {NAME
RECORDED IN A5} at that number.
ENTER 2 IN CATI AND REDIAL WITH
NEW NUMBER

INTRODUCTION CARD

IF RESPONDENT IS SPEAKING:

We are conducting a study for USDA's Team Nutrition Project. A little while ago, you received some information about this project through your child's school. As part of this study, I would like to ask you a few general questions about food and nutrition. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF NEW RESPONDENT IS COMING TO PHONE:

Hello, my name is _____ from Westat, Inc. We are conducting a study for USDA's Team Nutrition Project. A little while ago, you received some information about this project through your child's school. As part of this study, I would like to ask you a few general questions about food and nutrition. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF A CALLBACK, THEN READ:

Hello, my name is _____ from Westat, Inc. I'm calling back in order to complete a study we are conducting for the U.S. Department of Agriculture. As I mentioned before, we are conducting a study for USDA's Team Nutrition Project. A little while ago, you received some information about this project through your child's school. As part of this study, I would like to ask you a few general questions about food and nutrition. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF A REFERRAL FROM RESPONDENT OR NEW CONTACT, THEN READ:

[Hello, my name is _____ from Westat, Inc.] We are conducting a study for USDA's Team Nutrition Project. You may have heard about the project through _____ {NAME OF STUDENT}'s school. As the person who is most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits, I would like to ask you a few general questions about food and nutrition as part of this study. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study.

Are you the person who is most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits?

- | | | |
|-----------|---|---|
| YES | 1 | COMPLETE CATI INTERVIEW |
| NO..... | 2 | Thank you. Those are all the questions I have. ENTER 4 IN CATI, CODE AS 10 ON CALL RECORD |

IF A CATI RESTART, THEN READ:

Hello, my name is _____ from Westat, Inc. You participated in a study we are conducting for the U.S. Department of Agriculture, but were unable to complete the interview. I'm calling back to ask you a few additional questions to complete the interview. IF AVAILABLE, COMPLETE CATI INTERVIEW. IF NOT AVAILABLE, MAKE APPOINTMENT FOR CALLBACK.

SECTION B: KNOWLEDGE

INTERVIEWER NOTE

SECTIONS B THROUGH E ARE COMPLETED USING CATI. ENTER THE ID OF THE RESPONDENT FROM THE CONTACT FORM INTO CATI AND PROCEED WITH THE INTERVIEW.

BINTRO: To begin, I have some general questions about nutrition.

B1. Which of the following is the best snack choice for a low-fat diet?

- Cookies, 1
- Fruit roll-ups, 2
- Pie, or 3
- Ice cream? 4
- REFUSAL -7
- DON'T KNOW -8

B2. Please tell me how many servings of the following food groups a person should eat every day for good health. How many servings of...

[RANGE: 0-20]

- a. Vegetables SERVINGS
REFUSAL -7
DON'T KNOW -8
- b. Fruits..... SERVINGS
REFUSAL -7
DON'T KNOW -8
- c. Bread, cereal, rice, and pasta SERVINGS
REFUSAL -7
DON'T KNOW -8
- d. Meat, poultry, fish, eggs,
dry beans, and nuts..... SERVINGS
REFUSAL -7
DON'T KNOW -8
- e. Milk, yogurt, and cheese SERVINGS
REFUSAL -7
DON'T KNOW -8

[IF RESPONSE IS RANGE (E.G., 2-4), ASK: Would you say 2, 3, or 4?]

B3. Now I have a few true or false questions. True or false: High fat snacks like donuts and candy can't be part of a healthy diet?

TRUE..... 1
 FALSE 2
 REFUSAL -7
 DON'T KNOW -8

B4. True or false: All frozen yogurts are low in fat?

TRUE..... 1
 FALSE 2
 REFUSAL -7
 DON'T KNOW -8

B5. True or false: Trying new foods is an important part of good nutrition?

TRUE..... 1
 FALSE 2
 REFUSAL -7
 DON'T KNOW -8

B6. Are you familiar with the Food Guide Pyramid?

YES..... 1
 NO 2 ≥
 REFUSAL -7 ≤
 DON'T KNOW -8 | GO TO C1INTRO

B7. What food group is at the bottom of the Pyramid?

BREAD, CEREAL, RICE,
 PASTA 1
 VEGETABLES 2
 FRUIT 3
 MEAT, POULTRY, FISH, EGGS,
 DRY BEANS, NUTS 4
 MILK, YOGURT, CHEESE 5
 OTHER 6
 REFUSAL -7
 DON'T KNOW -8

SECTION C: ATTITUDES

CINTRO: Now I would like to ask your opinion about certain aspects of food and nutrition.

C1. When you are shopping or preparing meals for your family, is it very important, somewhat important, not too important, or not at all important to...

	<u>VERY IMPORTANT</u>	<u>SOMEWHAT IMPORTANT</u>	<u>NOT TOO IMPORTANT</u>	<u>NOT AT ALL IMPORTANT</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Include plenty of fruits?	1	2	3	4	-7	-8
b. Include plenty of vegetables?	1	2	3	4	-7	-8
c. Include a variety of foods?	1	2	3	4	-7	-8
d. Include ingredients low in fat?	1	2	3	4	-7	-8
e. Include plenty of breads, cereals, rice, and pasta?	1	2	3	4	-7	-8
f. Include at least two servings of dairy products, such as milk and cheese, daily?	1	2	3	4	-7	-8
g. Use low fat cooking methods?	1	2	3	4	-7	-8

USDA Team Nutrition Parents' Pretest Questionnaire

C2. For the following statements, please tell me whether you strongly agree, agree, disagree, or strongly disagree with the statement. First....

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Any foods can be included in a healthy diet.....	1	2	3	4	-7	-8
b. A healthy diet does not have to include a variety of foods.....	1	2	3	4	-7	-8
c. Some people are born to be fat and some to be thin; there is not much a person can do to change this.....	1	2	3	4	-7	-8
d. Starchy foods, like bread, potatoes, and rice, make people fat.....	1	2	3	4	-7	-8
e. There are so many recommendations about healthy ways to eat, it's hard to know what to believe	1	2	3	4	-7	-8
f. What you eat can make a big difference in your chance of getting a disease, like heart disease or cancer.....	1	2	3	4	-7	-8

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	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
g. The things you eat and drink now are healthy so there is no reason for you to make changes	1	2	3	4	-7	-8
h. Children's food choices are influenced by what their parents eat and drink.....	1	2	3	4	-7	-8
C3. How important is it that the school teach children about good nutrition? Is it....						
Very important,.....	1					
Somewhat important, or.....	2					
Not important?.....	3					
REFUSAL	-7					
DON'T KNOW	-8					
C4. Do you feel that you have the information you need to teach your child about good nutrition?						
YES.....	1					
NO.....	2					
REFUSAL	-7					
DON'T KNOW	-8					

SECTION D: BEHAVIOR

DINTRO: Next, I have some questions about food buying and eating practices. I will read a list of statements. Please tell me whether each statement applies to you almost always, often, sometimes, rarely, or never.

D1. Do you personally almost always, often, sometimes, rarely, or never....

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Eat turkey bologna <u>instead</u> of regular bologna?	1	2	3	4	5	0	-7	-8
b. Use skim or 1 % milk <u>instead</u> of 2 % or whole milk?	1	2	3	4	5	0	-7	-8
c. Eat low-fat cheeses, when you eat cheese?	1	2	3	4	5	0	-7	-8
d. Eat ice milk, frozen yogurt, or sherbet <u>instead</u> of ice cream?	1	2	3	4	5	0	-7	-8
e. Use low-calorie <u>instead</u> of regular salad dressing?	1	2	3	4	5	0	-7	-8
f. Have fruit for dessert when you eat dessert?	1	2	3	4	5	0	-7	-8

USDA Team Nutrition Parents' Pretest Questionnaire

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
g. Eat fish or poultry <u>instead</u> of meat, such as beef, pork, or lamb?.....	1	2	3	4	5	0	-7	-8
h. Eat whole-grain bread <u>instead</u> of white bread?	1	2	3	4	5	0	-7	-8
i. Drink fruit juices as beverages <u>instead</u> of soda?	1	2	3	4	5	0	-7	-8
j. Eat low-fat snacks such as fruits, vegetables, and pretzels, instead of fatty snacks?.....	1	2	3	4	5	0	-7	-8
k. Avoid eating foods high in fat	1	2	3	4	5	0	-7	-8
l. Use low-fat cooking methods, such as broiling <u>instead</u> of frying?	1	2	3	4	5	0	-7	-8

PROGRAMMER NOTE
<p>IF D1a=5, GO TO D2a, ELSE GO TO D3. IF D1b=5 GO TO D2b, ELSE GO TO D3. IF D1c=5, GO TO D2c, ELSE GO TO D3. IF D1d=5, GO TO D2d, ELSE GO TO D3. IF D1e=5, GO TO D2e, ELSE GO TO D3. IF D1f=5, GO TO D2f, ELSE GO TO D3. IF D1g=5, GO TO D2g, ELSE GO TO D3. IF D1h=5, GO TO D2h, ELSE GO TO D3. IF D1i=5, GO TO D2i, ELSE GO TO D3. IF D1j=5, GO TO D2i, ELSE GO TO D3.</p>

D2. Do you ever....

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Eat bologna	1	2	-7	-8
b. Drink milk	1	2	-7	-8
c. Eat cheese	1	2	-7	-8
d. Eat ice cream.....	1	2	-7	-8
e. Use salad dressing	1	2	-7	-8
f. Eat dessert.....	1	2	-7	-8
g. Eat meat	1	2	-7	-8
h. Eat bread	1	2	-7	-8
i. Drink soda.....	1	2	-7	-8
j. Eat fatty snacks	1	2	-7	-8

PROGRAMMER NOTE
<p>IF ANY RESPONSE IN D2a THROUGH D2j=2, RECODE CORRESPONDING QUESTION D1a THROUGH D1j=0.</p>

USDA Team Nutrition Parents' Pretest Questionnaire

D3. For the following statements, please tell me whether you almost always, often, sometimes, rarely, or never do what the statement describes. Do you almost always, often, sometimes, rarely, or never....

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Try to buy foods low in fat?	1	2	3	4	5	-7	-8
b. Try to buy a variety of foods	1	2	3	4	5	-7	-8
c. Try to influence the food choices of your child outside of home	1	2	3	4	5	-7	-8
d. Talk about nutrition or do nutrition activities with your child	1	2	3	4	5	-7	-8
e. Use Nutrition Facts food labels to help you choose what to buy	1	2	3	4	5	-7	-8
f. Try new foods because of the information on the Nutrition Facts food label	1	2	3	4	5	-7	-8

D4. For each of the following statements, please tell me if you strongly agree, agree, disagree, or strongly disagree.

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. You don't have time to monitor what your child eats	1	2	3	4	-7	-8
b. There are plenty of low-fat snacks such as fruits and vegetables in your home for your child to eat.....	1	2	3	4	-7	-8
c. The food that is available at school helps your child to eat healthy.....	1	2	3	4	-7	-8
d. You do nutrition activities with your child	1	2	3	4	-7	-8
e. You know how to use Nutrition Facts food labels to choose low-fat snacks	1	2	3	4	-7	-8
f. Reading Nutrition Facts food labels makes it easier to choose foods	1	2	3	4	-7	-8

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
g. When you use Nutrition Facts food labels, you make better food choices	1	2	3	4	-7	-8

D5. Would you say you read Nutrition Facts food labels....

Almost always,	1		
Often,	2		
Sometimes,	3		
Rarely, or	4		
Never?	5	≥	
REFUSAL	-7	≤	GO TO D7
DON'T KNOW	-8		

D6. When you read Nutrition Facts food labels, do you often, sometimes, rarely, or never use the following types of information. How about....

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. The amount of food in a serving size?	1	2	3	4	5	-7	-8
b. The calories in a serving?	1	2	3	4	5	-7	-8
c. The fat content of the food?	1	2	3	4	5	-7	-8
d. The cholesterol content of the food?	1	2	3	4	5	-7	-8
e. The sugar content of the food?	1	2	3	4	5	-7	-8

D7. Do you know a little, some, or a lot about what your child eats for....

		<u>KNOW A LITTLE</u>	<u>KNOW SOME</u>	<u>KNOW A LOT</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a.	Meals?	1	2	3	0	-7	-8
b.	Snacks?.....	1	2	3	0	-7	-8

D8. How often do you try to influence what your child eats? Is that....

Usually	1
Sometimes, or	2
Almost never?	3
REFUSAL	-7
DON'T KNOW	-8

[IF RESPONSE IS "ALWAYS" CODE AS "1"; IF RESPONSE IS "NEVER" CODE AS "3"]

D9. How would you describe your child's eating habits? Does your child usually, sometimes, or almost never....

		<u>USUALLY</u>	<u>SOMETIMES</u>	<u>ALMOST NEVER</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a.	Eat healthy snacks?	1	2	3	-7	-8
b.	Try new foods?	1	2	3	-7	-8
c.	Eat too few fruits?	1	2	3	-7	-8
d.	Eat too little?.....	1	2	3	-7	-8
e.	Eat a variety of foods?	1	2	3	-7	-8
f.	Eat too few vegetables?.....	1	2	3	-7	-8

[IF RESPONSE IS "ALWAYS" CODE AS "1"; IF RESPONSE IS "NEVER" CODE AS "3"]

D10. Which of the following activities do you do with your child? Do you....

	<u>YES</u>	<u>NO</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Go grocery shopping together?	1	2	N/A	-7	-8
b. Prepare meals at home together?	1	2	N/A	-7	-8
c. Prepare lunch for school together?	1	2	0	-7	-8
d. Make decision together about what foods to eat?	1	2	N/A	-7	-8
e. Talk about how food is related to health?	1	2	N/A	-7	-8

SECTION E: DEMOGRAPHICS

EINTRO: Finally, I have a few questions for classification purposes.

E1. Which of the following categories best describes your age? Are you....

- Under 30, 1
- Between 30 and 40, 2
- Between 41 and 50, or 3
- Over 50? 4
- REFUSAL -7
- DON'T KNOW -8

E2. Which of the following categories best describes your racial background? Are you....

- White, 1
- African-American or Black, 2
- Asian or Pacific Islander, or 3
- American Indian or Alaskan
native? 4
- OTHER (SPECIFY) _____ 91
- REFUSAL _____ -7
- DON'T KNOW _____ -8

E3. Are you Hispanic?

- YES 1
- NO 2
- REFUSAL -7
- DON'T KNOW -8

E4. What is the highest level of education that you have completed?

- Elementary school, 1
- High school, 2
- Some college or trade
school, 3
- College graduate, or 4
- Postgraduate training? 5
- REFUSAL -7
- DON'T KNOW -8

USDA Team Nutrition Parents' Pretest Questionnaire

E5. Are you currently married, not married but living with a partner, widowed, divorced, separated, or have you never been married?

MARRIED 1
 LIVING WITH A PARTNER..... 2
 WIDOWED 3
 DIVORCED 4
 SEPARATED..... 5
 NEVER MARRIED 6
 REFUSAL -7
 DON'T KNOW -8

E6. What is the total number of children you have in your household under the age of 18?

NUMBER OF CHILDREN |_|_| [RANGE 1-10]
 REFUSAL -7
 DON'T KNOW -8

E7. Which of the following categories best describes your current employment status? Are you....

Employed full-time,..... 1
 Employed part-time,..... 2
 A homemaker, 3
 Self-employed,..... 4
 A student, or 5
 Currently unemployed, laid off, or looking for work? 6
 REFUSAL -7
 DON'T KNOW -8

E8. For you and all the members of your household, which of the following categories best describes your total yearly income from all sources before taxes. Is it....

Less than \$30,000,..... 1
 Between \$30,000 and \$50,000, or 2
 Over \$50,000? 4
 REFUSAL -7
 DON'T KNOW -8

PROGRAMMER NOTE

READ: Those are all the questions I have. Thank you very much for your time.

PROGRAMMER NOTE
<p>IF INTERVIEW WAS NOT COMPLETED WITH PARENT LISTED ON CALL RECORD, ENTER NEW CONTACT INFORMATION AT END OF INTERVIEW. INCLUDE THE NAME, TELEPHONE NUMBER, AND RELATIONSHIP TO STUDENT OF THE NEW CONTACT FROM THE CONTACT FORM.</p> <p>IF UPDATED NAME AND ADDRESS INFORMATION IS OBTAINED FOR THE PARENT LISTED ON THE CALL RECORD, ENTER THE UPDATED INFORMATION AT THE END OF THE INTERVIEW.</p>

USDA Team Nutrition
Parents' Intervention Posttest Questionnaire

SECTION A: CONTACT

PROGRAMMER NOTE

SECTION A (CONTACT) WILL BE COMPLETED HARDCOPY USING THE CALL RECORD AND THE CONTACT FORM.

VERF SCREEN SHOULD INDICATE WHETHER OR NOT RESPONDENT COMPLETED PRE-TEST INTERVIEW. INSERT THE FOLLOWING INFORMATION: "PRE-TEST WAS COMPLETED" OR "PRE-TEST WAS NOT COMPLETED."

PARENTS' PRETEST QUESTIONNAIRE

CONTACT FORM

CATI ID: |_|_|_|_|_|_|_|_|_|

CONTACT: _____

PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|_|

CONTACT: _____

PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|_|

CONTACT: _____

PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|_|

CONTACT: _____

PHONE: (|_|_|_|_|) |_|_|_|_|-|_|_|_|_|_|

A1. Hello, my name is _____ from Westat, Inc. and I'm calling for the U.S. Department of Agriculture. May I speak to _____ {NAME OF PARENT}?

AVAILABLE 1

GO TO INTRODUCTION CARD

NOT AVAILABLE, SAME

NUMBER..... 2

When is a good time for me to call back?
RECORD APPOINTMENT ON CALL RECORD
Thank you, I'll call back then.
ENTER 3 IN CATI, CODE AS CALLBACK
ON CALL RECORD

NOT AVAILABLE, DIFFERENT

NUMBER..... 3

What is that telephone number?
RECORD NEW NUMBER ON CONTACT
FORM
When is a good time for me to call you at
that number?
RECORD APPOINTMENT ON CALL RECORD
Thank you, I'll call you back then.
ENTER 3 IN CATI, CODE AS CALLBACK
ON CALL RECORD.
GO TO A2

RESPONDENT NOT KNOWN .. 4
NONWORKING/

DISCONNECTED..... 5

ENTER 4 IN CATI, CODE AS 10 ON CALL
RECORD

NUMBER CHANGED..... 6

RECORD NEW NUMBER ON CONTACT
FORM. ENTER 2 IN CATI AND REDIAL WITH
NEW NUMBER. CODE AS 12 ON CALL
RECORD.

[IF ASKED: I'm calling about a study we are conducting for USDA's Team Nutrition program.]

A2. I'm trying to reach (|_|_|_|) |_|_|_|-|_|_|_|_|. Did I dial the correct telephone number?

YES 1 I'm sorry. Thank you very much.
ENTER 4 IN CATI, CODE AS 10 ON CALL RECORD

NO 2 I'm sorry, I seem to have dialed the
the wrong number. ENTER 2 IN
CATI AND REDIAL NUMBER. IF WRONG
NUMBER REACHED 2ND TIME, ENTER 4 IN
CATI, CODE AS 10 ON CALL RECORD

A3. Are you the person who is most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits?

YES 1
NO 2 GO TO A5

A4. What is your relationship to _____ {NAME OF STUDENT}?

MOTHER.....	1] COMPLETE CATI INTERVIEW
FATHER.....	2	
MALE GUARDIAN	3	
FEMALE GUARDIAN.....	4	
UNCLE.....	5	
AUNT	6	
GRANDFATHER	7	
GRANDMOTHER.....	8	
BROTHER.....	9	
SISTER	10	
OTHER (SPECIFY).....	91	
REFUSAL	-7	
DON'T KNOW	-8]

A5. Who is the person most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits?

FIRST NAME: _____ LAST NAME: _____

A6. And what is _____ {NAME OF STUDENT} RECORDED IN A5's relationship to _____ {NAME OF STUDENT}?

MOTHER.....	1
FATHER.....	2
MALE GUARDIAN	3
FEMALE GUARDIAN.....	4
UNCLE.....	5
AUNT	6
GRANDFATHER	7
GRANDMOTHER.....	8
BROTHER.....	9
SISTER	10
OTHER (SPECIFY).....	91
REFUSAL	-7
DON'T KNOW	-8

A7. May I please speak to _____ {NAME RECORDED IN A5}?

AVAILABLE 1

GO TO INTRODUCTION CARD

NOT AVAILABLE, SAME

NUMBER..... 2

When is a good time for me to call back?
Thank you, I'll call back then.
ENTER 3 IN CATI, CODE AS CALLBACK
ON CALL RECORD

NOT AVAILABLE, DIFFERENT

NUMBER..... 3

What is _____ {NAME RECORDED
IN A5}'s telephone number?
RECORD NAME AND NUMBER ON CALL
RECORD.
Thank you. I'll call _____ {NAME
RECORDED IN A5} at that number.
ENTER 2 IN CATI AND REDIAL WITH
NEW NUMBER

INTRODUCTION CARD**IF RESPONDENT IS SPEAKING AND PRE-TEST WAS COMPLETED:**

We are conducting a study for USDA's Team Nutrition program. You may recall that your child has been participating in the program at school. We recently contacted you to ask you a few general questions about food and nutrition. We would now like to ask you some questions about food, nutrition, and any nutrition events you have noticed. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF RESPONDENT IS SPEAKING AND PRE-TEST WAS NOT COMPLETED:

We are conducting a study for USDA's Team Nutrition program. A little while ago, you received some information about this project through your child's school. As part of this study, I would like to ask you a few general questions about food, nutrition, and any nutrition events you have noticed. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF NEW RESPONDENT IS COMING TO PHONE AND PRE-TEST WAS COMPLETED:

Hello, my name is _____ from Westat, Inc. We are conducting a study for USDA's Team Nutrition program. You may recall that your child has been participating in the program at school. We recently contacted you to ask you a few general questions about food and nutrition. We would now like to ask you some questions about any nutrition events you have noticed. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF NEW RESPONDENT IS COMING TO PHONE AND PRE-TEST WAS NOT COMPLETED:

Hello, my name is _____ from Westat, Inc. We are conducting a study for USDA's Team Nutrition program. A little while ago, you received some information about this project through your child's school. As part of this study, I would like to ask you a few general questions about food, nutrition, and any nutrition events you have noticed. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF A CALLBACK, THEN READ:

Hello, my name is _____ from Westat, Inc. I'm calling back in order to complete a study we are conducting for the U.S. Department of Agriculture. As I mentioned before, we are conducting a study for USDA's Team Nutrition Project. As part of this study, I would like to ask you a few general questions about food, nutrition, and any nutrition events you have noticed. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study. GO TO A3

IF A REFERRAL FROM RESPONDENT OR NEW CONTACT, THEN READ:

[Hello, my name is _____ from Westat, Inc.] We are conducting a study for USDA's Team Nutrition Project. You may have heard about the project through _____ {NAME OF STUDENT}'s school. As the person who is most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits, I would like to ask you a few general questions about food, nutrition, and any nutrition events you have noticed. Your participation is voluntary and your answers to the questions will be kept confidential and will be used only for purposes of this study. Your participation is very important to the success of this study.

Are you the person who is most knowledgeable about _____ {NAME OF STUDENT}'s nutrition habits?

YES 1
NO 2

COMPLETE CATI INTERVIEW
Thank you. Those are all the questions I have. ENTER 4 IN CATI, CODE AS 10 ON CALL RECORD

IF A CATI RESTART, THEN READ:

Hello, my name is _____ from Westat, Inc. You recently participated in a study we are conducting for the U.S. Department of Agriculture, but were unable to complete the interview. I'm calling back to ask you a few additional questions to complete the interview. IF AVAILABLE, COMPLETE CATI INTERVIEW. IF NOT AVAILABLE, MAKE APPOINTMENT FOR CALLBACK.

SECTION B: KNOWLEDGE**INTERVIEWER NOTE**

SECTIONS B THROUGH D ARE COMPLETED USING CATI. ENTER THE ID OF THE RESPONDENT FROM THE CONTACT FORM INTO CATI AND PROCEED WITH THE INTERVIEW.

BINTRO: To begin, I have some general questions about nutrition.

B1. Which of the following is the best snack choice for a low-fat diet?

- | | |
|-----------------------|----|
| Cookies, | 1 |
| Fruit roll-ups, | 2 |
| Pie, or | 3 |
| Ice cream? | 4 |
| REFUSAL | -7 |
| DON'T KNOW | -8 |

B2. Please tell me how many servings of the following food groups a person should eat every day for good health. How many servings of...

[IF RESPONSE IS RANGE (E.G., 2-4), ASK: Would you say 2, 3, or 4?]

[RANGE: 0-20]

- | | | |
|---|-------|----------|
| a. Vegetables | _____ | SERVINGS |
| REFUSAL | -7 | |
| DON'T KNOW | -8 | |
| b. Fruits..... | _____ | SERVINGS |
| REFUSAL | -7 | |
| DON'T KNOW | -8 | |
| c. Bread, cereal, rice, and pasta | _____ | SERVINGS |
| REFUSAL | -7 | |
| DON'T KNOW | -8 | |
| d. Meat, poultry, fish, eggs,
dry beans, and nuts..... | _____ | SERVINGS |
| REFUSAL | -7 | |
| DON'T KNOW | -8 | |
| e. Milk, yogurt, and cheese | _____ | SERVINGS |
| REFUSAL | -7 | |
| DON'T KNOW | -8 | |

B3. Now I have a few true or false questions. True or false: High fat snacks like donuts and candy can't be part of a healthy diet?

- | | |
|------------------|----|
| TRUE..... | 1 |
| FALSE | 2 |
| REFUSAL | -7 |
| DON'T KNOW | -8 |

B4. True or false: All frozen yogurts are low in fat?

TRUE.....	1
FALSE	2
REFUSAL	-7
DON'T KNOW	-8

B5. True or false: Trying new foods is an important part of good nutrition?

TRUE.....	1
FALSE	2
REFUSAL	-7
DON'T KNOW	-8

B6. Are you familiar with the Food Guide Pyramid?

YES.....	1	
NO	2] GO TO CINTRO
REFUSAL	-7	
DON'T KNOW	-8	

B7. What food group is at the bottom of the Pyramid?

BREAD, CEREAL, RICE,	
PASTA	1
VEGETABLES	2
FRUIT	3
MEAT, POULTRY, FISH, EGGS,	
DRY BEANS, NUTS	4
MILK, YOGURT, CHEESE	5
OTHER	6
REFUSAL	-7
DON'T KNOW	-8

SECTION C: ATTITUDES

CINTRO: Now I would like to ask your opinion about certain aspects of food and nutrition.

C1. When you are shopping or preparing meals for your family, is it very important, somewhat important, not too important, or not at all important to...

	<u>VERY IMPORTANT</u>	<u>SOMEWHAT IMPORTANT</u>	<u>NOT TOO IMPORTANT</u>	<u>NOT AT ALL IMPORTANT</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Include plenty of fruits?	1	2	3	4	-7	-8
b. Include plenty of vegetables?	1	2	3	4	-7	-8
c. Include a variety of foods?	1	2	3	4	-7	-8
d. Include ingredients low in fat?	1	2	3	4	-7	-8
e. Include plenty of breads, cereals, rice, and pasta?	1	2	3	4	-7	-8
f. Include at least two servings of dairy products, such as milk and cheese, daily?	1	2	3	4	-7	-8
g. Use low fat cooking methods?	1	2	3	4	-7	-8

C2. For the following statements, please tell me whether you strongly agree, agree, disagree, or strongly disagree with the statement. First....

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Any foods can be included in a healthy diet	1	2	3	4	-7	-8
b. A healthy diet does not have to include a variety of foods	1	2	3	4	-7	-8

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
c. Some people are born to be fat and some to be thin; there is not much a person can do to change this.....	1	2	3	4	-7	-8
d. Starchy foods, like bread, potatoes, and rice, make people fat.....	1	2	3	4	-7	-8
e. There are so many recommendations about healthy ways to eat, it's hard to know what to believe	1	2	3	4	-7	-8
f. What you eat can make a big difference in your chance of getting a disease, like heart disease or cancer.....	1	2	3	4	-7	-8
g. The things you eat and drink now are healthy so there is no reason for you to make changes	1	2	3	4	-7	-8
h. Children's food choices are influenced by what their parents eat and drink.....	1	2	3	4	-7	-8

C3. How important is it that the school teach children about good nutrition? Is it....

Very important,.....	1
Somewhat important, or.....	2
Not important?.....	3
REFUSAL	-7
DON'T KNOW	-8

C4. Do you feel that you have the information you need to teach your child about good nutrition?

YES.....	1
NO	2
REFUSAL	-7
DON'T KNOW	-8

SECTION NEI: NUTRITION EVENTS

NEIINTRO: Now I would like to ask you some questions about nutrition events and activities.

NEI1. Since March 1, have there been any nutrition education events in....

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Your community?	1	2	-7	-8
b. Your child's classroom?	1	2	-7	-8
c. Your child's school (outside of the classroom?.....)	1	2	-7	-8

PROGRAMMER NOTE

IF RESPONSE IN NEI1a \neq 1 AND NEI1b \neq 1 AND NEI1c \neq 1, GO TO NEI3, ELSE GO TO NEI2.

NEI2. Can you describe the nutrition events you have noticed?

NEI3. Since March 1, have you noticed "Team Nutrition" mentioned....

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. On television?	1	2	-7	-8
b. On the radio?	1	2	-7	-8
c. In the newspaper?	1	2	-7	-8

NEI4. Since March 1, have you noticed any changes in the foods offered in your child's school cafeteria?

YES.....	1
NO	2
REFUSAL	-7
DON'T KNOW	-8

PROGRAMMER NOTE

IF RESPONSE IN NEI1b \neq AND NEI1c \neq 1, GO TO NEI9, .ELSE GO TO NEI5.

NEI5. In the past three months, did your child participate in the nutrition events in your child's school?

YES.....	1	GO TO NE7
NO.....	2	
REFUSAL	-7	┌ GO TO NE7
DON'T KNOW	-8	└

NEI6. What was the primary reason why your child did not participate in any nutrition events in your child's school?

TOO BUSY	1
SICK	2
NOT INTERESTED	3
NOT ASKED TO PARTICIPATE	4
DIDN'T LIKE EVENTS	5
EVENTS CANCELLED.....	6
OTHER (SPECIFY)	91
REFUSAL	-7
DON'T KNOW	-8

NEI7. In the past three months, did you participate in the nutrition events in your child's school?

YES.....	1	GO TO NEI9
NO	2	
REFUSAL	-7	┌ GO TO NEI9
DON'T KNOW	-8	└

NEI8. What was the primary reason why you did not participate in any nutrition events in your child's school?

TOO BUSY	1
SICK	2
NOT INTERESTED	3
NOT ASKED TO PARTICIPATE	4
DIDN'T LIKE EVENTS	5
EVENTS CANCELLED.....	6
OTHER (SPECIFY)	91
REFUSAL	-7
DON'T KNOW	-8

NEI9. What types of nutrition activities did you participate in with your child at home? Did you and your child participate in...

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Family nutrition projects assigned in class?	1	2	-7	-8
b. Other nutrition homework?	1	2	-7	-8
c. Family reading materials, such as a nutrition newsletter?	1	2	-7	-8
d. Anything else? (SPECIFY)	1	2	-7	-8

PROGRAMMER NOTE

IF NEI9a = 2 AND NEI9b = 2 AND NEI9c = 2 AND NEI9d = 2, GO TO NEI14, ELSE GO TO NEI10.
--

NEI10. Which of the following Team Nutrition parent sheets did you read or do the suggested activities with your child?

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. The information sheet that describes a healthy diet (Parent Sheet 1)?	1	2	-7	-8
b. The information sheet that is about gardening with your child (Parent Sheet 2)?	1	2	-7	-8
c. The information sheet that is about the Food Guide Pyramid (Parent Sheet 3)?	1	2	-7	-8
d. The information sheet that is about eating plants as part of a healthy diet (Parent Sheet 4)?	1	2	-7	-8
e. The information sheet that is about doing indoor and outdoor exercise activities (Parent Sheet 5)?	1	2	-7	-8
f. The information sheet that is about the Nutrition Facts food label (Parent Sheet 6)?	1	2	-7	-8
g. The information sheet that is about choosing snacks from the Food Guide Pyramid (Parent Sheet 7)?	1	2	-7	-8

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
h. The information sheet that is about food shopping with your child (Parent Sheet 8)?	1	2	-7	-8

PROGRAMMER NOTE

IF NEI10a≠1 AND NEI10b≠1 AND NEI10c≠1 AND NEI10d≠1 AND NEI10e≠1 AND NEI10f≠1 AND NEI10g≠1 AND NEI10h≠1, GO TO NEI14, ELSE GO TO NEI11.

NEI11. Did you like all, most, some, or none of the parent information sheets?

ALL	1
MOST	2
SOME	3
NONE	4
REFUSAL	-7
DON'T KNOW	-8

NEI12. For each of the following statements, please tell me if you strongly agree, agree, disagree, or strongly disagree.

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. The parent information sheets were interesting for my child	1	2	3	4	-7	-8
b. There was not enough time for my child to complete the activities in the parent information sheets	1	2	3	4	-7	-8
c. The parent information sheets were important to my child	1	2	3	4	-7	-8
d. My child had fun doing the parent information sheets	1	2	3	4	-7	-8

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
e. I was able to understand the information contained in the parent information sheets.....	1	2	3	4	-7	-8
f. The parent information sheets gave me other ideas to practice good nutrition	1	2	3	4	-7	-8

NEI13. How would you improve the parent information sheets?

NEI14. Did you receive a copy of "Take Out," which is the Team Nutrition newsletter for parents?

YES.....	1] GO TO NEI16
NO.....	2	
REFUSAL	-7	
DON'T KNOW	-8	

NEI15. For the following statements, please tell me if you strongly agree, agree, disagree, or strongly disagree.

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. The parents "Take Out" newsletter provided you with useful information.....	1	2	3	4	-7	-8
b. You were able to understand the information in the "Take Out" newsletter	1	2	3	4	-7	-8

NEI16. Did your child receive a copy of "Foodworks," which is the Team Nutrition magazine for children?

YES..... 1
NO..... 2
REFUSAL -7
DON'T KNOW -8

PROGRAMMER NOTE

IF NEI14 \neq 1 AND NEI16 \neq 1, GO TO DINTRO, ELSE GO TO NEI17.

NEI17. Did you spend any time with your child reading or discussing any of the articles in the "Take Out" newsletter or "Foodworks" magazine?

YES..... 1
NO..... 2
REFUSAL -7
DON'T KNOW -8

SECTION D: BEHAVIOR

DINTRO: Next, I have some questions about food buying and eating practices. I will read a list of statements. Please tell me whether each statement applies to you almost always, often, sometimes, rarely, or never.

D1. Do you personally almost always, often, sometimes, rarely, or never....

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Eat turkey bologna <u>instead</u> of regular bologna?	1	2	3	4	5	0	-7	-8
b. Use skim or 1 % milk <u>instead</u> of 2 % or whole milk?	1	2	3	4	5	0	-7	-8
c. Eat low-fat cheeses, when you eat cheese?	1	2	3	4	5	0	-7	-8
d. Eat ice milk, frozen yogurt, or sherbet <u>instead</u> of ice cream?	1	2	3	4	5	0	-7	-8
e. Use low- calorie <u>instead</u> of regular salad dressing?	1	2	3	4	5	0	-7	-8
f. Have fruit for dessert when you eat dessert?	1	2	3	4	5	0	-7	-8

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
g. Eat fish or poultry <u>instead</u> of meat, such as beef, pork, or lamb?.....	1	2	3	4	5	0	-7	-8
h. Eat whole-grain bread <u>instead</u> of white bread?	1	2	3	4	5	0	-7	-8
i. Drink fruit juices as beverages <u>instead</u> of soda?	1	2	3	4	5	0	-7	-8
j. Eat low-fat snacks such as fruits, vegetables, and pretzels, <u>instead</u> of fatty snacks?.....	1	2	3	4	5	0	-7	-8
k. Avoid eating foods high in fat	1	2	3	4	5	0	-7	-8
l. Use low-fat cooking methods, such as broiling <u>instead</u> of frying?	1	2	3	4	5	0	-7	-8

PROGRAMMER NOTE	
IF D1a=5, GO TO D2a, ELSE GO TO D3. IF D1b=5, GO TO D2b, ELSE GO TO D3. IF D1c=5, GO TO D2c, ELSE GO TO D3. IF D1d=5, GO TO D2d, ELSE GO TO D3. IF D1e=5, GO TO D2e, ELSE GO TO D3. IF D1f=5, GO TO D2f, ELSE GO TO D3. IF D1g=5, GO TO D2g, ELSE GO TO D3. IF D1h=5, GO TO D2h, ELSE GO TO D3. IF D1i=5, GO TO D2i, ELSE GO TO D3. IF D1j=5, GO TO D2i, ELSE GO TO D3.	

D2. Do you ever....

	<u>YES</u>	<u>NO</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Eat bologna	1	2	-7	-8
b. Drink milk	1	2	-7	-8
c. Eat cheese	1	2	-7	-8
d. Eat ice cream.....	1	2	-7	-8
e. Use salad dressing	1	2	-7	-8
f. Eat dessert.....	1	2	-7	-8
g. Eat meat	1	2	-7	-8
h. Eat bread	1	2	-7	-8
i. Drink soda.....	1	2	-7	-8
j. Eat fatty snacks	1	2	-7	-8

PROGRAMMER NOTE	
IF ANY RESPONSE IN D2a THROUGH D2j=2, RECODE CORRESPONDING QUESTION D1a THROUGH D1j=0.	

D3. For the following statements, please tell me whether you almost always, often, sometimes, rarely, or never do what the statement describes. Do you almost always, often, sometimes, rarely, or never....

	<u>ALMOST ALWAYS</u>	<u>OFTEN</u>	<u>SOME- TIMES</u>	<u>RARELY</u>	<u>NEVER</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Try to buy foods low in fat?	1	2	3	4	5	-7	-8
b. Try to buy a variety of foods	1	2	3	4	5	-7	-8
c. Try to influence the food choices of your child outside of home	1	2	3	4	5	-7	-8
d. Talk about nutrition or do nutrition activities with your child	1	2	3	4	5	-7	-8
e. Use Nutrition Facts food labels to help you choose what to buy	1	2	3	4	5	-7	-8
f. Try new foods because of the information on the Nutrition Facts food label	1	2	3	4	5	-7	-8

D4. For each of the following statements, please tell me if you strongly agree, agree, disagree, or strongly disagree.

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. You don't have time to monitor what your child eats	1	2	3	4	-7	-8
b. There are plenty of low-fat snacks such as fruits and vegetables in your home for your child to eat.....	1	2	3	4	-7	-8
c. The food that is available at school helps your child to eat healthy.....	1	2	3	4	-7	-8
d. You do nutrition activities with your child	1	2	3	4	-7	-8
e. You know how to use Nutrition Facts food labels to choose low-fat snacks	1	2	3	4	-7	-8
f. Reading Nutrition Facts food labels makes it easier to choose foods	1	2	3	4	-7	-8

	<u>STRONGLY AGREE</u>	<u>AGREE</u>	<u>DISAGREE</u>	<u>STRONGLY DISAGREE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
g. When you use Nutrition Facts food labels, you make better food choices	1	2	3	4	-7	-8

D5_1. Compared to three months ago, would you say you are reading Nutrition Facts food labels....

More often,	1] GO TO D5_3
Less often, or	2	
About the same?	3	
REFUSAL	-7	
DON'T KNOW	-8	

D5_2. Would you say you are reading Nutrition Facts food labels....

A lot more often, or	1
A little more often?	2
REFUSAL	-7
DON'T KNOW	-8

D5_3. Compared to three months ago, would you say you are eating....

	<u>MORE</u>	<u>FEWER</u>	<u>ABOUT THE SAME</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. More servings of vegetables, fewer servings, or about the same?	1	2	3	-7	-8
b. More servings of fruit, fewer servings, or about the same?	1	2	3	-7	-8
c. More servings of grains, fewer servings, or about the same?	1	2	3	-7	-8
d. A greater variety of foods, less variety, or about the same?	1	2	3	-7	-8

PROGRAMMER NOTE

IF D5_3a=1, GO TO D5_4a, ELSE GO TO D5_3b.
 IF D5_3b=1, GO TO D5_4b, ELSE GO TO D5_3c.
 IF D5_3c=1, GO TO D5_4c, ELSE GO TO D5_3d.
 IF D5_3d=1, GO TO D5_4d, ELSE GO TO D5_5.

D5_4. Would you say you are eating....

	<u>A LOT</u>	<u>A LITTLE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. A lot more servings of vegetables or a little more?	1	2	-7	-8
b. A lot more servings of fruit or a little more?	1	2	-7	-8
c. A lot more servings of grains or a little more?	1	2	-7	-8
d. A lot greater variety of foods or a little more?	1	2	-7	-8

D5_5. Compared to three months ago, would you say that you consume....

More fat,	1	GO TO D5_7		
Less fat, or.....	2			
About the same?.....	3]]]		
REFUSAL	-7		GO TO D5_7	
DON'T KNOW	-8			

D5_6. Would you say you are eating....

A lot less fat, or.....	1
A little less fat?.....	2
REFUSAL	-7
DON'T KNOW	-8

D5_7. Compared to three months ago, is your child....

	<u>MORE</u>	<u>LESS</u>	<u>ABOUT THE SAME</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. More aware of healthy eating, less aware, or about the same?	1	2	3	-7	-8
b. More likely to talk about nutrition, less likely, or about the same?	1	2	3	-7	-8

	<u>MORE</u>	<u>LESS</u>	<u>ABOUT THE SAME</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
c. More interested in shopping or suggesting foods to buy, less interested, or about the same?	1	2	3	-7	-8
d. More interested in planning and preparing meals, less interested, or about the same?	1	2	3	-7	-8
e. More likely to make healthy food choices, less likely, or about the same?	1	2	3	-7	-8

PROGRAMMER NOTE

IF D5_7a=1, GO TO D5_8a, ELSE GO TO D5_7b.
 IF D5_7b=1, GO TO D5_8b, ELSE GO TO D5_7c.
 IF D5_7c=1, GO TO D5_8c, ELSE GO TO D5_7d.
 IF D5_7d=1, GO TO D5_8d, ELSE GO TO D5_7e.
 IF D5_7e=1, GO TO D5_8e, ELSE GO TO D7.

D5_8. Would you say your child is....

	<u>A LOT</u>	<u>A LITTLE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. A lot more aware or a little more aware of healthy eating?	1	2	-7	-8
b. A lot more likely or a little more likely to talk about nutrition?	1	2	-7	-8
c. A lot more interested or a little more interested in shopping or suggesting foods to buy?	1	2	-7	-8
d. A lot more interested or a little more interested in planning and preparing meals?	1	2	-7	-8

	<u>A LOT</u>	<u>A LITTLE</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
e. A lot more likely or a little more likely to make healthy food choices?	1	2	-7	-8

D7. Do you know a little, some, or a lot about what your child eats for....

	<u>KNOW A LITTLE</u>	<u>KNOW SOME</u>	<u>KNOW A LOT</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Meals?	1	2	3	-7	-8
b. Snacks?.....	1	2	3	-7	-8

D8. How often do you try to influence what your child eats? Is that....

[IF RESPONSE IS "ALWAYS" CODE AS "1"; IF RESPONSE IS "NEVER" CODE AS "3"]

Usually	1
Sometimes, or	2
Almost never?	3
REFUSAL	-7
DON'T KNOW	-8

D9. How would you describe your child's eating habits? Does your child usually, sometimes, or almost never....

[IF RESPONSE IS "ALWAYS" CODE AS "1"; IF RESPONSE IS "NEVER" CODE AS "3"]

	<u>USUALLY</u>	<u>SOMETIMES</u>	<u>ALMOST NEVER</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Eat healthy snacks?	1	2	3	-7	-8
b. Try new foods?	1	2	3	-7	-8
c. Eat too few fruits?	1	2	3	-7	-8
d. Eat too little?	1	2	3	-7	-8
e. Eat a variety of foods?	1	2	3	-7	-8
f. Eat too few vegetables?	1	2	3	-7	-8

D10. Which of the following activities do you do with your child? Do you....

	<u>YES</u>	<u>NO</u>	<u>DOES NOT APPLY</u>	<u>REFUSAL</u>	<u>DON'T KNOW</u>
a. Go grocery shopping together?	1	2	N/A	-7	-8
b. Prepare meals at home together?	1	2	N/A	-7	-8
c. Prepare lunch for school together?	1	2	0	-7	-8
d. Make decisions together about what foods to eat?	1	2	N/A	-7	-8
e. Talk about how food is related to health?	1	2	N/A	-7	-8

D11. Did anyone in your household receive food stamps in any of the past three months?

[IF R NOT PARENT, READ: Did anyone in {NAME OF STUDENT}'s household receive food stamps in any of the past three months?]

YES..... 1
 NO..... 2
 REFUSAL -7
 DON'T KNOW -8

PROGRAMMER NOTE






CLOSING SCREEN SHOULD READ: Those are all the questions I have. Thank you very much for your time.

STUDENT QUESTIONNAIRE

[PUT LABEL HERE]

We have some questions for you to answer. Remember:

- ☺ This is not a test! There are no right or wrong answers.
- ☺ Listen to each question carefully, and think about it before you choose an answer.
- ☺ To choose an answer, fill in the circle next to your choice.

WRONG MARKS	RIGHT MARK
   	
- ☺ Choose only one answer for each question unless you are asked to choose more than one.
- ☺ It is OK to fill in the circle "Don't Know" if you really don't know the answer.
- ☺ If you want to change an answer, erase your old answer and fill in the circle next to your new choice. Be sure to erase completely.
- ☺ Do not skip any questions.

Please answer the question in the box.

Are you a boy or girl?

☐ boy ☐ girl

PLEASE DO NOT WRITE IN THIS AREA



9885

Mark the circle for one of the two foods that you eat most often.

- | | | |
|---|----|--|
| 1. <input type="radio"/> cookies | OR | <input type="radio"/> an apple |
| 2. <input type="radio"/> buttered popcorn | OR | <input type="radio"/> unbuttered popcorn |
| 3. <input type="radio"/> chocolate cake | OR | <input type="radio"/> an orange |
| 4. <input type="radio"/> ice cream | OR | <input type="radio"/> fresh fruit popsicle |
| 5. <input type="radio"/> whole milk | OR | <input type="radio"/> lowfat or skim milk |
| 6. <input type="radio"/> frozen yogurt | OR | <input type="radio"/> ice cream |
| 7. <input type="radio"/> French toast | OR | <input type="radio"/> whole-wheat toast |
| 8. <input type="radio"/> grilled chicken sandwich | OR | <input type="radio"/> hamburger |
| 9. <input type="radio"/> baked potato | OR | <input type="radio"/> French fries |
| 10. <input type="radio"/> fruit juice | OR | <input type="radio"/> soda |
| 11. <input type="radio"/> donut | OR | <input type="radio"/> bread |

Mark the circle next to one of the two foods that you think is better for your health.

- | | | |
|---|----|--|
| 12. <input type="radio"/> cold or ready-to-eat cereal | OR | <input type="radio"/> eggs and bacon |
| 13. <input type="radio"/> whole milk | OR | <input type="radio"/> low-fat or skim milk |
| 14. <input type="radio"/> frozen yogurt | OR | <input type="radio"/> ice cream |
| 15. <input type="radio"/> green salad | OR | <input type="radio"/> French fries |
| 16. <input type="radio"/> raisins | OR | <input type="radio"/> candy bar |
| 17. <input type="radio"/> French fries | OR | <input type="radio"/> baked potato |
| 18. <input type="radio"/> donut | OR | <input type="radio"/> toast |

19. Joe ate cereal with milk and a banana and drank orange juice for breakfast. How many different food groups did Joe eat from the Pyramid? Mark only one answer.

- ☐ 1 ☐ 4
☐ 2 ☐ Don't know
☐ 3

20. What is a "balanced diet"? Mark only one answer.

- ☐ Eating a lot of fruits and vegetables ☐ Eating the same foods every day
☐ Eating only the foods pictured in the Pyramid ☐ Eating different foods from all the food groups
☐ Don't know

21. Which of the following is one serving size from the grain group?

- ☐ 2 slices of bread ☐ 1 cup of spaghetti or other noodles
☐ 2 cups of ready-to-eat cereal ☐ Don't know
☐ 1/2 cup of rice

22. If you want to eat more fruit, which of the following would you choose?

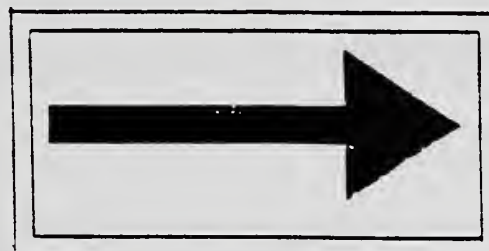
- ☐ Orange soda ☐ Grape jelly
☐ Strawberry ice cream ☐ Don't know
☐ A banana

23. From which food group in the Pyramid should you eat the most servings a day? Mark only one answer.

- ☐ Bread, cereal, rice, and pasta ☐ Meat, poultry, fish, eggs, dry beans, and nuts
☐ Vegetable ☐ Don't know
☐ Fruit







The following questions ask you about Nutrition Facts food labels.

An example of a Nutrition Facts food label is to the right.

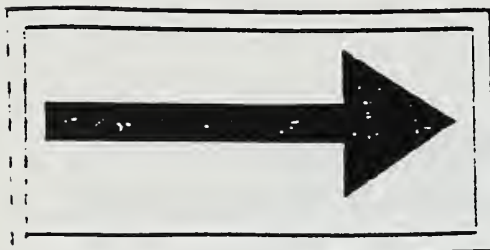


NUTRITION FACTS		
Serving Size: 6 chips		
Servings Per Container: 2		
Amount per serving		
Calories 120 Calories from fat 30%		
% Daily Value		
Total fat	4 g	6%
Saturated fat	1g	5%
Cholesterol	0mg	0%
Sodium	210mg	9%
Total Carbohydrate	7g	3%
Dietary Fiber	0g	0%
Sugar	0g	0%
Protein	4g	

24. Mark the circle below the faces that best describes your opinion of the following foods:

	I strongly agree  	I agree 	I disagree 	I strongly disagree  
a. Reading the Nutrition Facts food labels makes it easier to choose healthier foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. When I use Nutrition Facts food labels, I make healthier food choices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Use these Nutrition Facts labels to help you answer the next group of questions.



NACHO MUNCHIES

NUTRITION FACTS		
Serving Size: 6 chips		
Servings Per Container: 2		
Amount per serving		
Calories 120 Calories from fat 30%		
% Daily Value		
Total fat	4 g	6%
Saturated fat	1g	5%
Cholesterol	0mg	0%
Sodium	210mg	9%
Total Carbohydrate	7g	3%
Dietary Fiber	0g	0%
Sugar	0g	0%
Protein	4g	

CHEESE CHIPS

NUTRITION FACTS		
Serving Size: 6 chips		
Servings Per Container: 2		
Amount per serving		
Calories 160 Calories from fat 62%		
% Daily Value		
Total fat	11 g	18%
Saturated fat	1g	5%
Cholesterol	0mg	0%
Sodium	320mg	14%
Total Carbohydrate	15g	5%
Dietary Fiber	0g	0%
Sugar	0g	0%
Protein	2g	

25. Which chips would you choose if you were trying to lower the amount of total fat in your diet?
- ☐ Cheese Chips ☐ Can't tell from label
- ☐ Nacho Munchies ☐ Don't know
26. If you ate 12 Nacho Munchies chips, how much total fat would you have eaten?
- ☐ 4 grams ☐ 24 grams
- ☐ 8 grams ☐ Don't know
27. I use the Nutrition Facts food labels to help me choose what to buy or eat.
- ☐ Always ☐ Almost Never
- ☐ Often ☐ Never
- ☐ Sometimes

Mark the circles under Yes or No for each of the following questions.

In the last 2 weeks, did you ever...

	Yes	No
28. Eat fruits at home for breakfast?	<input type="radio"/>	<input type="radio"/>
29. Eat fruits or vegetables at home for snacks?	<input type="radio"/>	<input type="radio"/>
30. Go shopping with someone in your family and help choose fruits or vegetables?	<input type="radio"/>	<input type="radio"/>
31. Eat fruits or vegetables at home that you had never tried before?	<input type="radio"/>	<input type="radio"/>
32. Eat a new grain such as brown rice, bulgur, or pita bread. that you had never tried before?	<input type="radio"/>	<input type="radio"/>

Mark the circles under Yes, No, or Didn't Have to Ask for each of the following questions.

In the last 2 weeks, did you ever...	Yes	No	Didn't Have to Ask
33. Ask someone in your family to buy fruits or vegetables?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Ask someone in your family to buy more grains, such as bread, cereal, spaghetti, or other noodles?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Ask someone in your family to buy snacks that were low in fat, such as fruit, pretzels, lowfat yogurt, or lowfat cookies?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mark the circle under Yes, No, or Didn't Go Out to Eat for the following question.







In the last 2 weeks, did you ever...	Yes	No	Didn't Go Out to Eat
36. Eat fruits or vegetables when you went out to eat, not including the foods you eat at school?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>







37. Think about all the foods you ate yesterday. Which of the following food groups did the foods you ate yesterday come from?







Fill in the circles next to all of the food groups that apply.

- ☐ Bread, cereal, rice, and pasta group
- ☐ Milk, yogurt, and cheese group
- ☐ Vegetable group
- ☐ Meat, poultry, fish, dry beans, eggs, and nuts group
- ☐ Fruit group
- ☐ Don't know

38. Mark the circle below the faces that best describes your opinion of the school lunch:

	I strongly agree  	I agree 	I disagree 	I strongly disagree  
a. It offers food that I like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It offers foods that are good for my health.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. It offers new foods to try.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. It offers foods that taste good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. It offers a variety of foods that I will eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. It offers fruits that I will eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. It offers vegetables that I will eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. Mark the circle below the faces that best describes your opinion of the following statements:	I strongly agree  	I agree 	I disagree 	I strongly disagree  
a. I like to taste new foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It is bad for me to eat bread, cereal, and other grains many times a day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I like having fruits around for snacks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Trying new foods is good for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I like to ask someone in my family to buy more fruits or vegetables.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. I don't like the taste of foods that are good for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I like to choose snacks lower in fat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. If I eat fruits, vegetables, and grains such as breads, cereals, spaghetti, and other noodles every day:	I strongly agree  	I agree 	I disagree 	I strongly disagree  
a. My friends will make fun of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. My family will be proud of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I will have a nicer smile.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. My friends will not come to my house to eat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. My friends will start eating them too.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. I will be healthier than I am now.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. I will have less energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. I will become stronger.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. I will think better in class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. I won't enjoy eating as much as before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions ask about people you know who may change your eating.

41. Who eats lots of fruits?		Yes	No	Don't Know
a. Your parents or guardians	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Your brothers and sisters	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Your teachers	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Your friends	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>







42. Who eats lots of grains, such as cereal, rice, spaghetti and other noodles?		Yes	No	Don't Know
a. Your parents or guardians	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Your brothers and sisters	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Your teachers	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Your friends	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43. Who tries new foods?		Yes	No	Don't Know
a. Your parents or guardians	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Your brothers and sisters	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Your teachers	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Your friends	—————→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

44. If you are going to eat healthier food, then would you ever choose to:

	Yes	No	Maybe
a. eat a popsicle instead of ice cream?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. eat fresh fruit instead of a candy bar?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. eat cereal instead of a donut for breakfast?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. try new foods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. order new food in a restaurant?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. eat more servings of fruits or vegetables than you eat right now?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. eat six or more servings of grains, such as cereals, rice, spaghetti, and other noodles each day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. use Nutrition Facts labels to choose lowfat foods?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. Mark the circle below the faces that best describes your opinion of the following statements:

	I strongly agree  	I agree 	I disagree 	I strongly disagree  
a. Foods such as ice cream, cookies, and chips are okay to eat, but not all the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Snacks, such as fruit, pretzels, lowfat yogurt, or lowfat cookies can be an important part of a healthful diet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. It's okay to eat anything you want, whenever you want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Mark the circle under Yes or No for each of the following questions.

	Yes	No
46. In the last month, have you done nutrition activities in your school cafeteria, such as taste-testing new foods?	<input type="radio"/>	<input type="radio"/>
47. In the last month, have you done nutrition activities in your community, such as a nutrition fair or a fruit and vegetable taste-test?	<input type="radio"/>	<input type="radio"/>
48. In the last month, have you talked about good nutrition with your family?	<input type="radio"/>	<input type="radio"/>
49. In the last month, have you worked with your family on any nutrition homework?	<input type="radio"/>	<input type="radio"/>




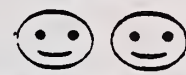
50. Have you seen the Disney characters. Pumba or Timon, talk about good nutrition on TV?

- ☐ Yes, at least once
- ☐ Yes, many times
- ☐ No, never





51. Mark the circle below the faces that best describes your opinion of the following vegetables:

	I have never tasted this 	I don't like this 	I like this a little 	I like this a lot 
a. carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. celery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. greens (collard, mustard, or turnip)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. potatoes, baked	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. corn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. peas (green, sweet, or English)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. tomatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. broccoli	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. lettuce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. beans (green, string, or snap)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. radishes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. cauliflower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. cucumber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. spinach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. bean sprouts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. peppers (red, green, or yellow)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. mushrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. squash (zucchini, yellow, butternut)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

52. Mark the circle below the faces that best describes your opinion of the following fruits:

	I have never tasted this 	I don't like this 	I like this a little 	I like this a lot 
a. peaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. apple juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. banana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. apple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. cantaloupe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. grapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. orange juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. orange	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. fruit salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. blueberries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. apricots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. kiwi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. pears	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. plums	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. mango	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. pineapple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. honeydew melon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

53. Mark the circle below the faces that best describes your opinion of the following foods:

	I have never tasted this 	I don't like this 	I like this a little 	I like this a lot 
a. bagels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. spaghetti and other noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. couscous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. cold or ready-to-eat cereal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. hot cereal (oatmeal, cream of wheat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. rice cakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. rolls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. grits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. English muffins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. tortillas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. unbuttered popcorn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. pretzels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. bread or toast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. granola	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. cornbread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. pita bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. lowfat cookies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

INTERVIEW GUIDES

TNC INITIAL SITE VISIT INTERVIEW GUIDE

Purpose of Instrument: This instrument is designed to obtain information on the Team Nutrition planning process and baseline information on the project's objectives with respect to implementing nutrition education interventions and activities from the individuals responsible for developing and implementing the plan.

Procedures:

When: Interviews will take place during initial site visit prior to implementation.
Who: District Team Nutrition coordinators or other appropriate school administrator in treatment communities. A total of four interviews.
Where: Onsite with the district coordinator or school contact.
Duration: The interview will last 1 hour.

Uses of Information for Evaluation: Information collected using this guide will be used to develop descriptive planning process profiles. Projects will be classified according to similarities and differences in planning procedures. Because planning often plays a significant role in the successful project implementation, this information will be useful for identifying effective planning procedures when compared with information collected at the end of implementation regarding the success of each project in attaining its implementation activities.

Information regarding project implementation activities collected during this interview will be used as baseline information to assess the project's success in attaining those activities and changes that occurred during the course of implementation. Again, differences and similarities in the planning process will be assessed to determine contributing factors to successful implementation.

Note to the interviewer: Whenever possible, use information from the district's implementation plan to complete items on the instrument before the interviews to reduce the interviewees' burden.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone number: _____

What is your role in the Team Nutrition effort?

Do you have any experience with school-based delivery of nutrition education?

☐ Yes

☐ No

If Yes, how much experience have you had?

☐ A lot

☐ Some

☐ Little

Please describe: _____

TNC INITIAL SITE VISIT INTERVIEW GUIDE

Thank you for taking the time to speak with us. During this interview we would like to hear your thoughts about the planning process that took place during the past several months and about the interventions and activities that will be implemented. First, I would like to ask you several questions about applying for the Team Nutrition cooperative agreement and developing the implementation plan.

SECTION I: APPLYING FOR THE TEAM NUTRITION COOPERATIVE AGREEMENT

This information will help us understand the motivations underlining the Team Nutrition pilot implementation at the district level and who was involved in the application process.

1. Who initiated the effort to apply for the Team Nutrition cooperative agreement?
(PROBE: Driving force)

- ☐ District food service director
☐ Someone from a local school
☐ School district administrator (describe position)_____

- _____
☐ State Department of Education administrator (describe position)_____

- _____
☐ Food Consumer Service Regional Office (describe position)_____

- ☐ Other (describe)_____

- _____
☐ Not applicable

2. Who participated in making the final decision to apply? (Check all that apply)

- ☐ District food service director
☐ School principals (list schools)_____

- _____
☐ School food service personnel

☐ School district administrator (describe positions)_____

☐ State Department of Education administrator (describe positions)

☐ Teachers (list schools)_____

☐ Parents (list schools)_____

☐ Others (describe)_____

☐ Not applicable

3. In your opinion, why did your district apply for the Team Nutrition grant?

SECTION II: SELECTION OF SCHOOLS

This section will help to develop school profiles.

Now, I would like to discuss the process involved in selecting schools to participate in the Team Nutrition effort. In general, please provide school-specific responses. In this section, we will be asking you questions about Team Nutrition schools as well as the pilot implementation schools.

4. a. How did you recruit schools for the overall Team Nutrition effort? This includes the pilot implementation project.

- b. Did the Team Nutrition schools have to meet certain criteria to participate?

☐ Yes ☐ No

If Yes, what were they?

- c. In selecting the pilot implementation schools, did you have criteria other than those established by the Food and Consumer Service?

☐ Yes ☐ No

If Yes, what were they?

5. How were pilot implementation schools involved and informed about the selection process for the pilot implementation project?

- ☐ Schools volunteered and selections were made from the volunteer pool.
☐ Schools were selected and then were told about the project.
☐ Other process (describe)_____

☐ Not applicable

6. For the pilot implementation schools, who participated in the school selection process? (Check all that apply)

☐ School principals (identify schools)_____

☐ School teachers (identify schools)_____

☐ School food service staff (identify schools)_____

☐ District school administrators (describe positions)_____

☐ Parents' associations (identify schools)_____

☐ State Department of Education administrators (describe positions)_____

☐ District food service administrator

☐ School boards

☐ Others (describe)_____

☐ Not applicable

7. What problems, if any, were encountered in the selection of pilot implementation schools for the pilot implementation project?

8. How were these problems, if any, addressed?

9. What facilitated the school selection process?

10. Were any special negotiations required for the comparison schools to delay nutrition activities?

SECTION III: IMPLEMENTATION DECISIONS

This section will collect information on the initial goals and objectives of the implementation plan for the project.

Now, I would like to spend some time discussing the core activities described in your implementation plan. I am going to read you a brief description of each activity and then ask you several questions about that activity. *Note to interviewers: Use the district's implementation plan to complete this section and identify whether the activity will be implemented in Phase I or Phase II. Use the interview to verify the information. Read the activities.*

11. Activity 1 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors of success during the implementation of this activity? (*Probe: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

12. Activity 2 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of this activity? (*for example: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

13. Activity 3 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of this activity? (*for example: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

14. Activity 4 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of this activity? (*for example: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

15. Activity 5 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of this activity? (*for example: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

16. Activity 6 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of this activity? (*for example: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

17. Activity 7 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of this activity? (*for example: parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of this activity?

18. Activity 8 ☐ Phase I ☐ Phase II

- a. Who will be responsible for implementing this activity and why?

- b. Why was this activity selected over others?

- c. What are the key messages you intend to communicate through this activity?

- d. What do you think will be the critical factors to the success of these activities?
(for example: *parent involvement, attendance, free media, outside contributions, space*)

- e. What challenges and/or problems, if any, do you expect to encounter during implementation of these activities?

19. Have you planned any additional activities that were not part of your implementation plan?

☐ Yes

☐ No

If Yes, what other activities have you planned and indicate whether they are for Phase I or Phase II?

20. Did you assess the needs of students and/or parents before developing any of the activities in your plan? *Note to interviewer: Indicate the activity number when writing the response.*

☐ Yes

☐ No

If Yes, specify the activity and describe how you assessed their needs? If No, why not?

SECTION IV: COMMUNITY PARTNERS

This section will provide background information on the development of the community partnerships.

Finally, I would like to ask you about the community partnerships you have developed and are planning to develop over the course of the pilot implementation project.

21. How did you identify the community partners? (**PROBE:** prior experience, Team Nutrition supporters' list).

22. Please list the partners you have established. *For each partner listed, read the questions in the table located on the next page and fill in the information.*

What is the name of the organization?	How long has it been a partner?	Why did you select this organization as a partner or did they approach you?	What will the community partner be doing?	What were the barriers, if any, encountered establishing the relationship?	How were the barriers overcome?

23. Please list the partners with whom you are planning to establish relationships?

Potential partner	Why did you select this organization as a partner?	What will the organization do?	What are anticipated barriers, if any, to the organization's participation?

Thank you very much for taking the time to help us today.

TNC SECOND SITE VISIT INTERVIEW GUIDE

Purpose of Instrument: The purpose of this instrument is to obtain information on the implementation process for the Team Nutrition project.

Information To Be Collected: The instrument will collect information on the success of the project in attaining its initial objectives, changes in objectives during the course of the project, and barriers and facilitators to attaining objectives. A similar set of questions is asked on each Team Nutrition activity.

Procedures for Collecting Information:

<u>When:</u>	Second site visit.
<u>Who:</u>	The District Team Nutrition Coordinators in implementation communities (no more than 8 interviews); appropriate school administrator.
<u>Where:</u>	Onsite.
<u>Duration:</u>	One hour to one and one-half hours.

Uses of Information for the Evaluation: The information collected from this instrument, in conjunction with information from the Team Nutrition Coordinator initial site visit interview and telephone interview, will serve as the general framework for assessing the success of individual projects (and schools) in attaining their implementation objectives and the barriers and facilitators they experienced in the implementation process. Cross-project implementation information also will be integrated into the outcome assessment to determine whether variations in implementation factors are related to variations in student, parent, and teacher outcomes.

* SC = sections relevant to school contacts; if not marked *SC, do not ask school contacts.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____ Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone number: _____

TNC SECOND SITE VISIT INTERVIEW GUIDE

Again, thank you for taking the time to meet with us. We appreciate the time and effort you have given assisting us with the evaluation of Team Nutrition. During this interview, we would like to focus our discussion on your experiences implementing Team Nutrition over the past months. *(Phase I only: However, first, now that you have had experience implementing the initiatives, we would like to spend several minutes discussing the planning and school selection process that you were asked to conduct prior to program implementation.)*

* SC = sections relevant to school contacts; if not marked *SC, do not ask school contacts.

SECTION I: PLANNING

This information will be used to identify the perceived value of the planning process for implementation.

1. *(Ask in Phase I only)* On a scale from 1 to 5, with 1 being "Very useful" and 5 being "Not at all useful," how useful was the planning process for implementing Team Nutrition?

Very useful					Not at all useful
1	2	3	4	5	

Please explain by telling me what you found the most and least useful aspects of the planning process *(for example: Team Nutrition materials, school buy-in, orientation, Federal guidance, writing implementation plans)*.

2. Now that [Phase I/Phase II] implementation is over, what, if anything, would you do differently in planning for this year?

3. Now that the project has been completed for this year, do you feel that the schools selected for the pilot project were good choices? In your response, please be school specific.

☐ Yes

☐ No

Please explain.

4. Now that the project has been completed for this year, do you feel that the grades selected to implement the curriculum were good choices?

☐ Yes

☐ No

Please explain.

SECTION II: IMPLEMENTATION ACTIVITIES (SC)*

This information will provide detailed descriptions of implementation activities to identify effective practices and procedures.

Now, I would like to move on to discuss the activities that were conducted during the semester. I am going to read you a description of your implementation activities. Then, I will ask you several questions about the activity. First, I would like to begin by talking about implementing the Scholastic module in the classroom.

5. ACTIVITY 1 - Classroom intervention

-
-
- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools were in implementing the classroom modules?

Very successful

1

2

3

4

Not at all successful

5

Please explain by telling us what you thought what was most and least successful about the implementation of the classroom modules.

-
-
-
-
- b. What challenges or problems, if any, were encountered and how were they addressed or resolved? (**PROBE:** were there differences across grades? were there differences in teacher interest across grades?)

- c. What facilitated implementing the classroom modules and why? (**PROBE:** were there differences across grades? were there differences in teacher interest across grades?)

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

☐ More than ☐ Less than ☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the Team Nutrition effort in communicating the nutrition messages to students (increase fruits, vegetables, and grains; decrease fat; increase variety)?

Very successful Not at all successful
1 2 3 4 5

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

6. ACTIVITY 2

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful

1

2

3

4

Not at all successful

5

Please explain by telling us what you thought what was most and least successful about the implementation.

- b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

- c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

☐ More than ☐ Less than ☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful Not at all successful
1 2 3 4 5

Write in message from initial interview _____

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

7. ACTIVITY 3

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful					Not at all successful
1	2	3	4	5	

Please explain by telling us what you thought what was most and least successful about the implementation.

- b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

- c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

☐ More than

☐ Less than

☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful

1

2

3

4

Not at all successful

5

Write in message from initial interview _____

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

8. ACTIVITY 4

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful					Not at all successful
1	2	3	4	5	

Please explain by telling us what you thought what was most and least successful about the implementation.

b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

More than

 Less than

 Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful

1

2

3

4

Not at all successful

5

Write in message from initial interview

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

9. ACTIVITY 5

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful

1

2

3

4

Not at all successful

5

Please explain by telling us what you thought what was most and least successful about the implementation.

- b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

- c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

☐ More than

☐ Less than

☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful
1

2

3

4

Not at all successful
5

Write in message from initial interview _____

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

10. ACTIVITY 6

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful					Not at all successful
1	2	3	4	5	

Please explain by telling us what you thought what was most and least successful about the implementation.

- b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

- c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

 More than

☐ Less than

☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful

1

2

3

4

Not at all successful

5

Write in message from initial interview _____

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

11. ACTIVITY 7

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful					Not at all successful
1	2	3	4	5	

Please explain by telling us what you thought what was most and least successful about the implementation.

- b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

- c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

☐ More than

☐ Less than

☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful

1

2

3

4

Not at all successful

5

Write in message from initial interview _____

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools about using the Scholastic module?

- g. What changes, if any, do you anticipate making in implementation of the Scholastic module *[Phase I: during Phase II][if you plan to implement it again]*?

12. ACTIVITY 8

Read the description of the activity.

- a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools/district were in implementing this activity?

Very successful					Not at all successful
1	2	3	4	5	

Please explain by telling us what you thought what was most and least successful about the implementation.

- b. What challenges or problems, if any, were encountered and how were they addressed or resolved?

- c. What facilitated implementing this activity and why?

- d. To the best of your knowledge, were the staff time and resources needed to implement the modules more than, less than, or the same as originally anticipated?

☐ More than ☐ Less than ☐ Same

If More than or Less than, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful was the activity in communicating the intended message?

Very successful

1

2

3

4

Not at all successful

5

Write in message from initial interview _____

Please explain by telling us what activities or events were the most and least successful in communicating the messages.

- f. What advice or suggestions would you give to other schools or districts implementing these activities?

- g. What changes, if any, do you anticipate making in implementing activities
[Phase I: during Phase II] [Phase II: if you plan to conduct nutrition activities in the future]?

SECTION III: DIETARY GUIDELINES

This section will provide information necessary to develop a picture of how the district plans to comply with the dietary guidelines.

Now, I would like to spend several minutes discussing your district's plan to meet the dietary guidelines that went into effect June 15, 1995.

13. What district food service changes were made since [Phase I: June 1995] [Phase II: June 1996]? (**PROBE:** actual menu change, new contracts, new recipe development, planned menu changes.)

14. Does your district's involvement in Team Nutrition affect your schedule for making menus meet the dietary guidelines?

☐ Yes ☐ No

If Yes, how?

SECTION IV: MEDIA COVERAGE

This section will provide information on the type, extent, and reach of the media coverage related to Team Nutrition. This will be useful for analyzing outcomes and providing technical assistance to school districts in the future.

I would like to discuss media coverage Team Nutrition has received during this implementation period. During this section of the interview, we would like to focus on media that generated awareness and publicity for Team Nutrition and related activities and events rather than educational programming or newsletters.

15. To the best of your knowledge, was Team Nutrition mentioned in the following categories of media? If more than one piece, please note all. (*Read the type of media and ask the following questions.*)

What was the focus of the piece?
 Was the coverage positive or negative?
 Who initiated the coverage?
 Did this coverage reach comparison communities?

Organizational newsletters (including school newsletters).

☐ Yes ☐ No ☐ Don't know

Focus _____

Positive or negative coverage _____

Initiated coverage _____

Reach into comparison communities _____

Newspapers. ☐ Yes ☐ No ☐ Don't know

Focus _____

Positive or negative coverage _____

Initiated coverage _____

Reach into comparison communities _____

Radio. ☐ Yes ☐ No ☐ Don't know

Focus _____

Positive or negative coverage _____

Initiated coverage _____

Reach into comparison communities _____

Television (specify cable or network). ☐ Yes ☐ No ☐ Don't know

Focus _____

Positive or negative coverage _____

Initiated coverage _____

Reach into comparison communities _____

16. Can you offer any "lessons learned" to other schools or districts on generating media coverage for Team Nutrition?

SECTION V: BUDGET

17. In your school district's implementation plan, you were asked to develop an implementation budget for conducting all Team Nutrition activities and events. Now that you have completed the activities, in general, how accurate was your budget? Can you tell us in which areas you expended more or less than budgeted? (**PROBE:** for categories of expenses such as food, materials, duplication, labor.)

SECTION V: OVERALL PROGRAM (SC)*

This section will provide information on overall satisfaction with the program and future intentions.

Finally, now that we have discussed the pieces of the Team Nutrition Pilot Implementation project, I would like to take few minutes to look at the project as a whole. By as "a whole", I am referring to the integration of classroom lessons, cafeteria and chef events, parent involvement, community events, and media coverage into a district and school-wide nutrition program.

18. a. In general, of all of the activities we have discussed, which do you think were most successful at transmitting their intended messages to children?

Please explain.

- b. In general, of all the activities we have discussed, which do you think were the least successful at transmitting their intended messages to children?

Please explain.

19. a. In general, of all of the activities we have discussed, which do you feel were most successful in changing student behavior?

Please explain.

- b. In general, of all of the activities we have discussed, which do you feel were the least successful in changing student behavior?

Please explain.

20. What do you think the major lasting impact of the Team Nutrition project will be in your community? (**PROBE:** school district practices and policies, student eating behaviors.)

21. Are there any important lessons learned that you would like to share with other schools interested in implementing Team Nutrition?

22. Now that the project is completed, do you plan to continue to implement Team Nutrition? *(Phase II only)*

☐ Yes ☐ No Please explain.

Thank you very much for taking the time to help us today.

TEAM NUTRITION COORDINATOR TELEPHONE INTERVIEW

Purpose of Instrument: The purpose of this instrument is to monitor the implementation of the Team Nutrition project.

Information To Be Collected: The instrument is designed to collect information on the ongoing implementation of each project objective. This includes objectives pertaining to classroom interventions, school-wide activities, parental involvement, food-service operations, community partnerships, training (other than teacher training), and mass media coverage. The instrument also will be used to clarify any questions the evaluation staff may have regarding the activity logs completed by the Team Nutrition coordinator and the teachers.

Procedures:

- When: Information will be collected 1 month after implementation and 2 months after implementation.
- Who: The district Team Nutrition coordinators in each of the four treatment communities.
- Where: Prospect staff will conduct the interviews by telephone.
- Duration: The interviews will last approximately 15 minutes.

Uses of Information for Evaluation: The monitoring process is important because it will capture information about the implementation process as it occurs rather than rely on respondent recall during the second site visit.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone Number: _____

TEAM NUTRITION COORDINATOR TELEPHONE INTERVIEW

Notes to interviewer: You will be provided a list each of the district's proposed implementation activities. Read question and ask respondent to identify which activities he/she has had problems implementing.

1. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied are you with your progress to date?

Very satisfied

1

2

3

4

Not at all satisfied

5

What do you think are your major accomplishments to date? (**PROBE:** teacher commitment to requirements, food service improvements, linking class to cafeteria, implementing the core activities.)

2. Have you changed any of the activities in any way since your final implementation plan?

☐ Yes

☐ No

If Yes, in what ways and why? (*Write activity along with his/her response.*)

3. Have you encountered any challenges thus far in attaining any of the activities?

☐ Yes

☐ No

If Yes, what were the activities and/or the challenges and how do you plan to resolve them? (*Write activity along with response.*)

4. Has there been anything that you feel has been particularly helpful in implementing your activities? *Note to interviewer: If respondent answers Yes, ask:*

What is it and why do you think it has been helpful?

5. Have you encountered any problems with any of the evaluation components of Team Nutrition? (*Read each; if Yes, **PROBE** for explanation of problems.*)

Student Surveys

☐ Yes

☐ No

Food Selection / Plate Waste

☐ Yes

☐ No

Activity Logs

☐ Yes

☐ No

Cafeteria Staff Observations

☐ Yes

☐ No

Thank you for taking the time to help us today.

TEACHER INTERVIEW GUIDE

Purpose of Instrument: The purpose of this instrument is to obtain information about the process of implementing the classroom interventions and the teacher's attitudes toward and perceptions of the Scholastic modules.

Information To Be Collected: The instrument is designed to collect information about how the Scholastic modules were implemented, how they were received, teacher's perceptions of the materials, and general perceptions of the Team Nutrition effort.

Procedures:

When: Second site visit.

Who: Approximately 36 teachers who have implemented the Scholastic module in 4th grade. Three teachers in each of the treatment schools.

Where: Onsite.

Duration: Half an hour.

Uses of Information for the Evaluation: The information collected from this instrument will be used, in conjunction with initial interview information, to describe the general process and challenges encountered in implementing Team Nutrition classroom materials. The information will also be used to develop a profile of individual teachers and to classify teachers on the basis of their similarities and differences with respect to their perceptions of the Team Nutrition effort. This could be incorporated as a variable in the analysis of student outcome information.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone Number: _____

What is your role in the Team Nutrition effort?

Do you have any experience with school-based delivery of nutrition education?

☐ Yes

☐ No

If Yes, how much experience have you had?

☐ A lot

☐ Some

☐ Little

Please describe: _____

TEACHER INTERVIEW INSTRUMENT GUIDE

Thank you for agreeing to speak with us. We would like to ask you a few questions about your experiences teaching nutrition education and, more specifically, using the Team Nutrition Scholastic module. Your responses will assist the United States Department of Agriculture to evaluate the Team Nutrition effort and assist others schools in implementing the curricula. I would like to ask you a few questions about your experiences using the Team Nutrition classroom module. We do not represent Scholastic nor were we involved in the design of the module; therefore, please do not hesitate to be candid.

SECTION I: IMPLEMENTATION OF TEAM NUTRITION CLASSROOM MATERIALS

This section will provide information on the use of the Scholastic module.

1. a. How did you use the Team Nutrition Scholastic module in your classroom?

- ☐ Used the lessons as a separate curriculum to teach nutrition
- ☐ Integrated nutrition lessons into other subjects as suggested
- ☐ Both
- ☐ Other (describe) _____

b. If you used it as a separate curriculum, how did you present the unit?

c. If you integrated it with other subjects, which subjects did you choose and how did you make this selection?

2. To what degree did the district or school prescribe which activities were conducted?

- ☐ Left to my own discretion
- ☐ Prescribed some activities
- ☐ Prescribed all activities

If left to your own discretion, what criteria did you use for selecting particular activities or events?

If activities were prescribed for you, who made the selection for you and how did you feel about that process?

3. a. Were you able to complete all eight of the lessons during this semester?

- ☐ Yes
- ☐ No

If Yes, how long, on average, did it take you to complete a lesson and the accompanying activities?

- b. If No, why were you unable to complete all eight lessons?

SECTION II: ATTITUDES TOWARDS CLASSROOM MATERIAL

This section will provide information relating to teacher attitudes about classroom materials and perceptions about effectiveness.

4. a. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied were you with the Scholastic module overall?

Very satisfied					Not at all satisfied
1	2	3	4		5

Please explain your answer by indicating what aspects you were most and least satisfied with regarding the module (*for example, quality of materials, age appropriateness, suggested activities, starting up activities, specific lessons*).

- b. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied were you with the amount of time it took to prepare for the individual lessons?

Very satisfied					Not at all satisfied
1	2	3	4		5

Please explain your answer by telling me which lessons you were most and least satisfied with related to the length of preparation time (*for example, lesson 1: Food Grows; lesson 2: Bodies Grow; lesson 3: Read All About It; lesson 4: Label Lowdown; lesson 5: Fat Facts Feature; lesson 6: Sense-ational Food; lesson 7: The World On a Plate; lesson 8: The Great Nutrition Adventure*).

- c. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied were you with the time it took to implement the individual lessons in the classroom?

Very satisfied

1

2

3

4

Not at all satisfied

5

Please explain your answer by indicating which lessons you were most and least satisfied implementing (*for example, lesson 1: Food Grows; lesson 2: Bodies Grow; lesson 3: Read All About It; lesson 4: Label Lowdown; lesson 5: Fat Facts Feature; lesson 6: Sense-ational Food; lesson 7: The World On a Plate; lesson 8: The Great Nutrition Adventure*).

- d. In your opinion, did you feel that the materials (reproducibles, videos) support the themes of the lessons adequately?

☐ Yes

☐ No

Please explain.

- e. Based on your observation, were the lessons, materials, and activities able to engage students' interest?

☐ Yes

☐ No

Please explain.

5. Do you feel the materials were appropriate for the developmental and educational levels of the children in your classroom?

☐ Yes

☐ No

Please explain.

6. In your opinion, which of the lessons were most successful at accomplishing their objectives? (**PROBE:** lesson 1: Food Grows; lesson 2: Bodies Grow; lesson 3: Read All About It; lesson 4: Label Lowdown; lesson 5: Fat Facts Feature; lesson 6: Sense-ational Food; lesson 7: The World On a Plate; lesson 8: The Great Nutrition Adventure).

7. In your opinion, which of the lessons were least successful at accomplishing their objectives? (**PROBE:** lesson 1: Food Grows; lesson 2: Bodies Grow; lesson 3: Read All About It; lesson 4: Label Lowdown; lesson 5: Fat Facts Feature; lesson 6: Sense-ational Food; lesson 7: The World On a Plate; lesson 8: The Great Nutrition Adventure).

8. Which lessons did the children seem most interested in? (**PROBE:** lesson 1: Food Grows; lesson 2: Bodies Grow; lesson 3: Read All About It; lesson 4: Label Lowdown; lesson 5: Fat Facts Feature; lesson 6: Sense-ational Food; lesson 7: The World On a Plate; lesson 8: The Great Nutrition Adventure).

9. Which lessons generated the least interest from the children? (**PROBE:** lesson 1: Food Grows; lesson 2: Bodies Grow; lesson 3: Read All About It; lesson 4: Label Lowdown; lesson 5: Fat Facts Feature; lesson 6: Sense-ational Food; lesson 7: The World On a Plate; lesson 8: The Great Nutrition Adventure).

10. Have you used other nutrition education materials with your students prior to this project?

☐ Yes

☐ No

If Yes, what were they and how would you compare these materials with the Team Nutrition materials? Were they: better than TN's; about the same; not as good as TN?

11. What would you do to improve the Scholastic materials?

12. What would you recommend to other teachers interested in implementing the classroom materials?

SECTION III: OVERALL PROGRAM

This section will provide information on overall satisfaction and future intentions.

13. Were you aware of any other school-wide nutrition education activities that were being conducted as part of Team Nutrition during the semester?

☐ Yes

☐ No Skip to 16

14. On a scale of 1 to 5, with 1 being "Very effective" and 5 being "Not at all effective," how effective were the school-wide Team Nutrition activities in reinforcing the messages of the Scholastic lessons?

Very effective

1

2

3

4

Not at all effective

5

Please explain by indicating which activities were most and least effective in reinforcing message lessons. *(Insert names of school-wide activities)*

Activities

15. On a scale of 1 to 5, with 1 being "Very effective" and 5 being "Not at all effective," how effective were the district-wide Team Nutrition activities in reinforcing the messages of the Scholastic lessons?

Very effective					Not at all effective
1	2	3	4		5

Please explain by telling me which activities were the most and least effective in reinforcing message lessons. *(Specify activities, if necessary)*

16. On a scale from 1 to 5 with 1 being "Very satisfied" and 5 being "Not at all satisfied," how would you describe your satisfaction with the Team Nutrition project overall?

Very satisfied					Not at all satisfied
1	2	3	4		5

Please explain by telling me what you were most and least satisfied with related to Team Nutrition.

17. Do you think that being involved in this project has changed the way you use food as an incentive or reward in the classroom?

☐ Yes

☐ No

☐ Don't use food as incentive/reward

Please explain.

18. Do you think being involved in this project has changed your behaviors with respect to the foods you eat or prepare for yourself or your family?

☐ Yes

☐ No

Please explain.

19. *(Phase II only)* Now that the pilot implementation has been completed for this semester, do you plan to continue to use the Team Nutrition materials?

☐ Yes

☐ No

Please explain.

Thank you very much for taking the time to help us today.

SCHOOL PRINCIPAL/ADMINISTRATOR INTERVIEW GUIDE

Purpose of Instrument: This instrument is designed to obtain information from school administrators to obtain a measure of involvement and commitment to the Team Nutrition project at its onset. It also will serve the purpose of introducing the school administrators to the evaluation process and answering their questions about this process.

Information To Be Collected: The instrument will be used to collect information on (1) the involvement of the principal and the school in the Team Nutrition planning process, (2) the knowledge of the principal regarding the evaluation process, (3) the attitudes of the principal toward the TN project, and (4) the level of commitment to the project.

Procedures:

When: Initial site visit.
Who: Principals/school administrators at each of the treatment schools.
Where: Interviews will be conducted on-site.
Duration: This interview will last approximately 30 minutes.

During the preliminary conversations with the District Team Nutrition Coordinator to schedule the initial site visit, the Coordinators will be asked, if for each treatment school, the vice principal would be the more appropriate contact person for this interview. If so, interviews will be scheduled with the vice principal. In addition, if during the course of the interview with the school principal, the vice principal is identified as having responsibility for curricula or food service, then site visit staff will request an interview the vice principal.

Uses of Information in the Evaluation: Information collected using this interview will be used to develop descriptive profiles of the schools with respect to the level of commitment of the school principal to the project, the level of involvement of the school in the planning phase, and the level of knowledge of the school regarding the evaluation process. All three of these variables may affect the implementation process and participant outcomes. The schools will be classified with respect to their similarities and differences in principal's attitudes and involvement in the project.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone Number: _____

What is your role in the Team Nutrition effort?

Do you have any experience with school-based delivery of nutrition education?

☐ Yes

☐ No

If Yes, how much experience have you had?

☐ A lot

☐ Some

☐ Little

Please describe: _____

SCHOOL PRINCIPAL/ADMINISTRATOR INTERVIEW GUIDE

Thank you for taking the time to talk with us about the Team Nutrition project in your school. We would like to take this opportunity to ask some questions about your attitude toward the school lunch and nutrition education program in your school; your school's involvement in the planning, implementing, and evaluating Team Nutrition events and activities; and your hopes and expectations of the Team Nutrition project and to answer any of your questions about the project.

SECTION I: ATTITUDES TOWARD SCHOOL LUNCH AND NUTRITION EDUCATION

This section provides information to indicate the level of support for school-wide nutrition education initiatives.

1. What is your involvement in food service in your school?

2. a. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied are you with your current school lunch program?

Very satisfied

1

2

3

4

Not at all satisfied

5

Please explain by telling us what you are most and least satisfied with in regard to your school lunch program. (for example: quality of food, nutritional content of meals, atmosphere, staff)

3. What do you think should be the role of schools in providing nutrition education to children?

4. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied are you with the current level of nutrition education for your students?

Very satisfied

1

2

3

4

Not at all satisfied

5

Please explain by telling us what you are most and least satisfied with in regard to the current level of nutrition education for students. *(for example: curricula, amount of time devoted, grade level taught, district requirements)*

5. Do you think that nutrition education in the classroom will help students make better food choices?

☐ Yes

☐ No

Please explain.

SECTION II: INVOLVEMENT IN THE PLANNING PROCESS

This section provides information about the level of involvement by the school principal in the district's planning.

Now, I would like to find out about how you and your school were involved in the Team Nutrition Pilot Implementation project's planning process.

6. When did you first learn that your school was going to participate in the Team Nutrition project as an implementation school?

7. Did you participate in this decision?

☐ Yes

☐ No

If Yes, in what ways did you participate?

If No, what was your initial reaction when you were told that you were going to be an implementation school?

8. Were you or your school involved in any way in the school district's planning process for the implementation of Team Nutrition?

☐ Yes

☐ No

If Yes, how have you been involved? (*Specify involvement of principal vs. others.*)

If No, would you have wanted to be involved? How?

SECTION III: INVOLVEMENT IN IMPLEMENTATION PROCESS

This section provides information on the anticipated level of participation of the school principal in implementation.

Now, I would like to ask you a few questions about how much you know about the Team Nutrition project and how you think it will affect your school.

9. What do you see as your role in supporting the implementation of the Team Nutrition project? (**PROBE:** Will you be actively involved and, if so, in what ways? If you will not be actively involved, what will your role be?)

10. a. Who will be responsible for providing oversight for the project in your school, and what is his/her title?

- b. What will his/her role be in the implementation? (**PROBE:** percent time.)

11. At this point, have you discussed Team Nutrition with anyone in the school? For example, have you talked with:

- ☐ The teachers to be involved?
- ☐ The parents?
- ☐ The food service staff?
- ☐ The students?
- ☐ Other? _____

Note to interviewer: If respondent indicates discussions with any of the above groups, ask: What were the discussions about?

12. What challenges or problems, if any, do you anticipate in implementing the Team Nutrition project at your school?

Note to interviewer: If respondent identifies any challenges or problems ask: What plans do you have for overcoming them?

SECTION IV: EVALUATION INFORMATION

This section provides knowledge about the level of buy-in and support for the evaluation.

As you already know, USDA is conducting an evaluation of the Team Nutrition implementation project. This sheet tells you a little bit about the evaluation and how your school will be involved. *(Hand information sheet to respondent.)*

13. a. When were you told about the evaluation being conducted in your school?

b. What have you been told?

Note to interviewer: Refer to handout and go over main points with respondent.

14. Do you have any questions about the evaluation that we can answer for you?

15. a. Given your current understanding of the evaluation, what challenges or problems, if any, do you anticipate in conducting the evaluation in your school?

- b. What plans, if any, do you have for meeting the challenges?

SECTION V: ANTICIPATED EFFECTIVENESS

This section provides information on the principal's expectations for success.

In conclusion, I would like to ask a few questions about your hopes and expectations for the Team Nutrition efforts.

16. Do you feel that the Team Nutrition project will affect the way food is prepared in the school lunchroom (this includes Dietary Guidelines)?

☐ Yes

☐ No

☐ Don't Know

Please explain.

17. Do you think that Team Nutrition will increase student participation in the school lunch program?

☐ Yes

☐ No

☐ Don't Know

Please explain.

18. Do you feel that the Team Nutrition project will improve the students' food choices?

☐ Yes

☐ No

☐ Don't Know

Please explain.

19. Do you feel that the Team Nutrition project will change teachers' attitudes toward teaching nutrition in the classrooms?

☐ Yes

☐ No

☐ Don't Know

Please explain.

Thank you very much for taking the time to help us today.

FOOD SERVICE STAFF INTERVIEW GUIDE

Purpose of Instrument: The purpose of this instrument is to obtain perceptions and attitudes of food service workers on the implementation of the Team Nutrition initiative (classroom, school, and district activities) and assess their level of involvement in planning Team Nutrition activities, their plans to meet the new dietary guidelines, and their plans for food service training.

Information To Be Collected: The instrument will collect information on the level of involvement of food service staff in the Team Nutrition effort, their perceptions of the training they received, the food service changes that were made, and the individuals involved in making those changes.

Procedures:

When: Interviews with school staff will be scheduled to coincide with the second plate waste analysis. If the District Food Service Director and the District Team Nutrition Coordinator are the same person, this interview will be scheduled to coincide with the second site visit interview.

Who: This interview is primarily designed to be administered to school food service staff including the school food service director and one cafeteria line worker. However, in those instances where the district food service coordinator is not the District Team Nutrition Coordinator, this interview guide should be used to interview the district food service director.

The total number of interviews should not exceed 28.

Before scheduling interviews with the school food service line worker, Prospect staff will ask the school food service director to identify a member of their staff that has experience implementing nutrition education and/or is active in cafeteria operations to be interviewed.

Where: Interviews will take place onsite.

Duration: Interviews will last approximately 30 minutes.

Uses of the Information for the Evaluation: The involvement of food service staff and changes in the food service system are critical components of the implementation process. The information from this interview will be used to describe the planning and implementation process and will be incorporated as a variable in assessing student outcomes with respect to participating in the school lunch program and plate waste changes as a result of food service changes.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone number: _____

What is your role in the Team Nutrition effort?

Do you have any experience with school-based delivery of nutrition education or menu changes to achieve the Dietary Guidelines?

☐ Yes

☐ No

If Yes, how much experience have you had?

☐ A lot

☐ Some

☐ Little

Please describe: _____

FOOD SERVICE STAFF INTERVIEW GUIDE

Thank you for agreeing to speak with us. We would like to ask you a few questions about your experiences planning and implementing Team Nutrition activities in your school, making the menu changes that you have made over the semester, and the food service training that you have received.

SECTION I: INVOLVEMENT IN THE PLANNING PROCESS *[PHASE I ONLY]*

This section provides information about the level of buy-in by the food service staff and their efforts to address the needs of the consumers. If interviewing school food service line worker, skip to Section II.

First, I would like to ask you a few questions about your involvement in the Team Nutrition planning process.

1. *(District and school food service managers only)* When did you first learn that your school/your district was going to participate in the Team Nutrition project as an implementation school?

2. *(District and school food service managers only)* Did you participate in this decision?

☐ Yes

☐ No

If Yes, in what ways did you participate?

If No, what was your initial reaction when you were told that you were going to be an implementation school?

3. *(District and school food service managers only)* Were you or your school involved in any way in the school district's planning process for the implementation of Team Nutrition?

☐ Yes

☐ No

If Yes, how have you been involved?

If No, would you have wanted to be involved? How?

4. *(District and school food service managers only)* Did you or others involved in the planning process assess the needs of or consult with students and/or parents before deciding on food service-related activities?

☐ Yes

☐ No

Please explain.

SECTION II: INVOLVEMENT IN THE IMPLEMENTATION PROCESS

Now, I would like to ask you about your experiences implementing Team Nutrition activities. Overall, two types of activities took place in your school during the past semester. There were school-wide activities and activities that were part of a classroom lesson plan. We will be asking you questions about both types of activities.

This section provides information on the level of participation of the food service staff.

5. a. How would you describe your involvement in the implementation of the Team Nutrition project at your school/in your district? *(How would you say you were involved in the special Team Nutrition project at your school/in your district?)*

☐ Very involved

☐ Somewhat involved

☐ A little bit involved

☐ Not at all involved

☐ Other (explain)_____

- b. Describe how you were involved and if you would have liked to have been more or less involved, why?

- c. *(School food service manager only)* How were other cafeteria staff involved in the implementation process?

I am going to read you the school-wide implementation activities that involved the food service program and the message that each was intended to convey. Afterwards, I would like to ask you several questions about the implementation of the activities. In your responses, please try to be activity specific. *(Prior to interview, review the district implementation plan and the responses to the initial site visit with the District Team Nutrition Coordinator; write the specific food service activities and the intended messages in the space provided below. During the interview, read the description of the activities and the intended message. Ask the respondent to identify which of the activities he/she was involved in, circle the activities indicated.)*

6. a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the schools were/your school was in implementing these activities?

Very successful

1

2

3

4

Not at all successful

5

Please explain by telling me what parts of the implementation process were most and least successful (*for example, conducted the activities listed in the implementation plan, high participation rate by students, activities attracted media attention*).

- b. (*District and school food service managers only*) What challenges or problems did you face in implementing these activities and how were they solved?

- c. (*District and school food service managers only*) What facilitated attaining these activities and why? (*What helped you to conduct these activities and why?*)

- d. *(District and School Food Service Directors only)* To the best of your knowledge, were the staff time and resources needed to implement these activities greater than originally anticipated?

☐ Yes

☐ No

If Yes, please explain.

- e. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful were the activities that you were involved with in conveying the intended messages?

Very successful

1

2

3

4

Not at all successful

5

Please explain by telling me which activities were most successful and least successful in conveying the intended message and why *(for example, more/less parent involvement would have helped, more/less planning time, teacher involvement, student involvement)*.

- f. *[Phase I: What are you planning to do differently next year?] [Phase II: If you were planning to implement nutrition education activities again next year, what would you do differently and why?]*

Now, I am going to ask you about the activities that were classroom initiated.

7. a. *(School Food Service Director and Cafeteria Line Worker only)* Did you participate in classroom-initiated activities (i.e., lunchroom links)?

☐ Yes

☐ No

If yes, how many?

No. _____

- b. Did you enjoy these activities?

☐ Yes

☐ No

Please briefly describe the activities. In your response, indicate whether the activities were conducted in the cafeteria or in the classroom.

- c. *(School Food Service Director and Cafeteria Line Worker only)* On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you think the classroom activities were in teaching children about nutrition?

Very successful

1

2

3

Not at all successful

4

5

Please explain by telling me which activities you felt were most and least successful in teaching nutrition to children.

- d. *(School Food Service Director only)* What challenges or problems did you face in your participation in these activities and how were they solved?

- e. *(School Food Service Director only)* What helped you to conduct the classroom-initiated activities and why?

8. *(School Food Service Director only)* Were there any other nutrition activities conducted in the school or community that you are aware of and would like to comment on?

SECTION III: MENU OR FOOD SERVICE CHANGES

This section provides information on the menu or food service changes that occurred during the school's/district's involvement in Team Nutrition.

Now, I would like to ask you several questions regarding any menu or food service changes that have been implemented in your school since [Phase I: March 1996] [Phase II: June 1996]. We would like to hear about any changes in the way you prepare or service food.

9. a. Since [Phase I: March 1996][Phase II: June 1996] what changes have been made to the way to prepare and serve food? Why were these changes made? (Read list below and note responses.)

☐ Menu changes (describe and indicate when and why)_____

☐ Changes in the way food is provided to the children (e.g., selections offered, served, etc. (describe and indicate when and why)_____

- ☐ Changes in the way the food is presented (describe and indicate when and why)_____

- ☐ Changes in the way the cafeteria looks (describe and indicate when and why)_____

- ☐ Other changes (describe and indicate when and why)_____

- b. To the best of your knowledge, who did the district staff talk to before making the food service changes?

- ☐ Students ☐ Parents ☐ Food service staff
☐ Teachers ☐ School administrators
☐ Other (identify)_____

- c. What did the students think of the changes?

- d. What did the school staff think of the changes?

SECTION IV: FOOD SERVICE TRAINING

This section provides information on food service training.

Finally, I would like to discuss any food service training activities in which you/your staff has participated. *(Note to the interviewer: If interviewing a District Food Service Director, please request a copy of the agenda/training manual if available.)*

10. a. *[Phase I: Since June 1995] [Phase II: Since June 1996]*, did you/your staff participate in any training on making food service changes?

☐ Yes

☐ No Skip to 10.

If Yes:

- b. What topics were covered during the training?

- c. *(District and school food service managers only)* Please describe the training you received.

- d. On a scale from 1 to 5, with 1 being "Very satisfied" and 5 being "Not at all satisfied," how satisfied were you with the training?

Very satisfied					Not at all satisfied
1	2	3	4	5	

Please explain by telling us what you were most and least satisfied with about the training (*for example, nutrition topics covered, level of training, relationship to health, relationship to job*).

- e. What, if anything, do you think could have been done to improve the training?

11. (*Phase I only.*) If you have not received training, is any training planned to take place before next year's implementation period?

☐ Yes

☐ No

☐ Don't know

SECTION V: FOOD SERVICE PREPARATION PRACTICES

This section will provide information on food service training practices related to the general nutrition objectives of Team Nutrition.

Now, I would like to ask you about your food preparation practices and procedures.

12. a. [*Phase I: Since June 1995*] [*Phase II: Since June 1996*], have you changed your food preparation to lower fat content in recipes?

☐ Yes

☐ No

☐ Don't know

- b. What do you do to lower fat content in recipes? (**PROBES:** trimming fat off meat, adding lemon to vegetables instead of butter, broiling or baking foods instead of frying, serving more pasta and rice, baking with applesauce.)

13. a. *[Phase I: Since June 1995] [Phase II: Since June 1996]*, have you changed in the way you serve or prepare fruits and vegetables?

☐ Yes

☐ No

☐ Don't know

What do you do now related to serving and preparing fruits and vegetables? (**PROBES:** serve fresh fruits and vegetables in season, serve "popular" fruits and vegetables, have salad bars, encourage students to take fruits and vegetables as they are passing through the line.)

14. a. *[Phase I: Since June 1995] [Phase II: Since June 1996]*, have you changed anything in your efforts to get students to eat a wide variety of foods?

☐ Yes

☐ No

☐ Don't know

- b. What do you do now to encourage students to eat a wide variety of foods? (**PROBES:** encouraging food servers to introduce new items, menu planning to introduce new items, posters and/or prompts in the cafeteria.)

SECTION VI: OVERALL PROGRAM

This section provides information on perceived program benefits.

Finally, now that we have discussed the various "pieces" of the Team Nutrition program, I would like to hear your opinion on the effects of the program on students' eating habits.

15. a. *(Ask of school food service director and line worker only)* Since *[Phase I: March 1995] [Phase II: June 1996]*, have you noticed any changes in the students' eating patterns?

☐ Yes

☐ No

If Yes, what are the changes?

- b. Why do you think they occurred?

16. a. In general, of all of the activities we have discussed (cafeteria activities, classroom activities, menu changes), which do you feel were most successful in changing student behavior?

Please explain.

- b. In general, of all of the types of activities we have discussed, which do you feel were the least successful in changing student behavior?

Please explain.

17. Are there any important lessons learned that you would like to share with other schools interested in implementing Team Nutrition?

18. Would you recommend that other schools become active in Team Nutrition?

☐ Yes

☐ No

Please explain.

Thank you for taking the time to help us today.

COMMUNITY PARTNER INTERVIEW GUIDE

Purpose of Instrument: The purpose of this instrument is to obtain information from community partners on their involvement with the Team Nutrition project and the implementation of specific activities or events.

Information To Be Collected: The instrument is designed to collect information about how the relationships with Team Nutrition were established, specific events or activities with which the community partners were involved, how decisions were made regarding those events or activities, barriers and facilitators to implementing events or activities, and satisfaction with the partnership relationship.

Procedures:

- When: The community partners will be interviewed during the second site visit of Phase I and Phase II.
- Who: Up to four community partners will be interviewed from each district. This will increase the variability of response. Community partners will be selected by the level of resources and time committed to Team Nutrition. District Team Nutrition Coordinators will be asked in the initial site visit interview to describe participation according to the level of time and resources committed to Team Nutrition activities. Prospect staff will select for these partners to achieve potential variability in terms of experiences with the project. As many as 16 community partner representatives will be interviewed.
- Where: The interviews will be done at a site selected by the community partner representative.
- Duration: The interview will last approximately 30 minutes.

Uses of Information for Evaluation: These interviews will provide important information for understanding the procedures, resources, barriers, and facilitators encountered when community agencies or organizations develop collaborative relationships with local school systems.

TEAM NUTRITION PILOT IMPLEMENTATION PROJECT

Interview Cover Sheet

Date: _____

Interviewer: _____

Name of the respondent: _____

Title: _____

District: _____

School (if applicable): _____

Address: _____

Telephone Number: _____

What is your role in the Team Nutrition effort?

Do you have any experience with school-based or community-wide delivery of nutrition education?

☐ Yes

☐ No

If Yes, how much experience have you had?

☐ A lot

☐ Some

☐ Little

Please describe: _____

COMMUNITY PARTNER INTERVIEW GUIDE

Thank you for agreeing to speak with us. As we told you when we scheduled this interview, we work for Prospect Associates, a research firm located in Rockville, Maryland. We have been contracted to evaluate the Team Nutrition Pilot Implementation project, which is being conducted in your school district. Today, we would like to ask you a few questions about your experiences with the Team Nutrition pilot project. Your responses will assist the United States Department of Agriculture in evaluating the Team Nutrition effort and will assist other communities in implementing a similar program. We do not represent the USDA or the school district; therefore, we encourage you to be candid. Your responses will be kept confidential.

SECTION I: DEVELOPING PARTNERSHIPS

This section will provide background information on partner rationale for participating in Team Nutrition. Questions in this section will be asked in Phase I.

First, I would like to ask you a few questions about how you were recruited to work on Team Nutrition and your involvement in the development of the implementation plan.

1. Were you involved in any way in the school district's planning process for the implementation of Team Nutrition?

☐ Yes

☐ No

If Yes, how have you been involved?

2. How did your organization become involved with the Team Nutrition project?
(**PROBE:** Did the school/school district approach you or did you approach them?
Had you heard of the Team Nutrition project before you became involved with it?)

3. Why did your organization decide to become involved with the Team Nutrition Pilot Implementation project? (**PROBE:** What was the perceived benefit of collaboration to the partner/to the community?)

4. Who was involved in making the decision to participate in Team Nutrition and what were their roles (e.g., job titles/functions)?

5. Have you developed a formal partnership through a memorandum of understanding (MOU) or other formal agreement?

☐ Yes

☐ No

If Yes, how were decisions made regarding what would be included in the MOU or formal agreement?

6. a. What, if any, barriers or challenges, if any, were encountered in developing and sustaining the partnership relationship?

- b. How were the barriers overcome?

7. Initially, what were the levels of staff time and/or resources you agreed to contribute to Team Nutrition?

SECTION II: IMPLEMENTATION

This section will provide information on implementation of Team Nutrition activities and satisfaction with Team Nutrition partnerships.

Now, I would like to ask you about your experiences implementing Team Nutrition activities. I will read you a description of the activities listed in your school district's implementation plan. Afterwards, I will ask you several questions about the activities.

8. a. On a scale from 1 to 5, with 1 being "Very successful" and 5 being "Not at all successful," how successful do you feel you were in implementing these activities?

Very successful					Not at all successful
1	2	3	4	5	

Please explain your response by telling us what were the most and least important factors that contributed to the successful implementation of these activities *(for example: level of cooperation from the schools, media attention, level of participation rate by students)*.

- b. What challenges or problems, if any, were encountered in implementing these activities, and how they were addressed or resolved? In your response, please be activity specific.

- c. What facilitated implementing these activities and why? In your response, please be activity specific.

- d. What staff time and resources were required to implement these activities? In your response, please be activity specific.

Was this more, less, or the same as originally anticipated?

☐ More

☐ Less

☐ Same

If more or less, why do you think more/less resources and staff time were required?

- e. *[Ask during Phase I only]* What changes do you anticipate making to the implementation plans for next year with respect to the activities conducted as part of your Team Nutrition community partnership?

- f. What advice or suggestions would you give to other community partners regarding implementing nutrition education activities in partnership with Team Nutrition schools or school districts?

9. Did you collect any information on the events for which you were a Team Nutrition partner?

☐ Yes

☐ No Skip to 10

If Yes, did you collect information on (check all that apply):

- ☐ Number of participants
- ☐ Participant satisfaction
- ☐ Participant suggestions or recommendations for future events
- ☐ Change in participants' nutrition knowledge
- ☐ Change in participants' nutrition awareness
- ☐ Change in participants' attitudes toward nutrition issues
- ☐ Change in participants' nutrition behaviors
- ☐ Other (describe) _____

For each item checked above, ask:

How did you collect this information?

What were the findings?

10. Overall, on a scale from 1 to 5, when 1 means "Very satisfied" and 5 means "Not at all satisfied," how satisfied are you with your partnership with the Team Nutrition effort?

Very satisfied , Not at all satisfied
1 2 3 4 5

Please explain your response by telling us what you thought were the most and least satisfying aspects of the partnership (*for example: ability to build relationships, interaction with the students, opportunities to reach parents, community exposure*).

11. Would you recommend that other organizations and/or businesses become active supporters of Team Nutrition?

☐ Yes

☐ No

Please explain.

Thank you for taking the time to help us today.

APPENDIX C: TEACHER BASELINE KNOWLEDGE QUESTIONS

TEACHER BASELINE KNOWLEDGE

On the baseline survey, teachers were asked a number of questions to assess their knowledge of the Food Guide Pyramid and healthy eating. The following table lists the correct response to each knowledge question and the percentage of teachers who answered correctly at Phase I baseline.

Percent of teachers who knew that:	All Districts
A person should eat <u>at least</u> 5 servings of fruits and vegetables each day for good health.	84
A half cup of orange juice does not count as a fruit or vegetable serving according to the Food Guide Pyramid.	19
A half cup of cooked carrots counts as a fruit or vegetable serving according to the Food Guide Pyramid.	84
A half cup of lettuce does not count as a fruit or vegetable serving according to the Food Guide Pyramid.	34
A half cup of steamed broccoli counts as a fruit or vegetable serving according to the Food Guide Pyramid.	91
A person should eat the most servings a day from the bread, cereal, rice, and pasta group.	60
A person should eat <u>at least</u> 6 servings of breads and cereals each day.	80
Pepperoni should not be placed in the "tip" of the Food Guide Pyramid.	43
Doughnuts should not be placed in the "tip" of the Food Guide Pyramid.	29
Bacon should be placed in the "tip" of the Food Guide Pyramid.	37
Sour cream should be placed in the "tip" of the Food Guide Pyramid.	43
Of the choices offered, the best choice for a low-fat diet would be skim milk.	84
Of the choices offered, the best snack choice for a low-fat diet would be fruit roll ups.	80
Orange juice is in the fruit group on the Food Guide Pyramid.	95
Peanut butter is in the meat group on the Food Guide Pyramid.	82
Breakfast cereal is in the grain group on the Food Guide Pyramid.	95
Yogurt is in the dairy group on the Food Guide Pyramid.	95
Corn is in the vegetable group on the Food Guide Pyramid.	82
A cookie with a percent daily value for fat of 8% is not a low-fat snack choice.	60
Percent daily value for sugar is <u>never</u> found on the Nutrition Facts food label.	52
N (number of teachers completing the questionnaire).	(141)

**APPENDIX D: MEETING GOALS OF THE SCHOOL MEALS INITIATIVE—
MEASUREMENT CHALLENGES**

INTRODUCTION

The USDA regulation "School Meals Initiative for Healthy Children" requires implementation of Dietary Guidelines by the School Year 1996-97. Districts participating in the pilot implementation were expected to be some of the first to meet the new regulations, which include establishing lunch menus that meet one-third of Recommended Dietary Allowances for children's intake of protein, vitamins A and C, iron, calcium and calories.

The seven school districts participating in the TN Pilot Implementation Project underwent two rounds of menu analyses to gauge their progress in meeting the Dietary Guidelines. The menu analysis is not presented however, due to inconsistencies in the data. Nonetheless, a description of the data collection and analysis is instructive. The information that follows describes the procedures that were used for conducting the menu analysis as well as lessons learned in the process.

METHODOLOGY

Data Collection. For each of the seven pilot sites, computer-based nutrient analysis was conducted on one week of menus in both Phase I (at baseline) and Phase II (post-intervention). Both implementation and comparison schools were included in the analysis at the request of the USDA. In Phase I, 31 schools (19 implementation and 12 comparison) were included in the analysis and 30 schools (18 implementation and 12 comparison) were included in Phase II. The week of analysis for both baseline and post was selected by USDA with input from the contractor, and was the same for each of the seven participating school district sites. In each phase, every effort was made to select a week for analysis that was a full week of school (i.e., no scheduled holidays or snow days). To prepare for the menu analysis in each phase of the project, TN coordinators received a memo requesting the following information:

- Menus for the designated week (centralized and site-based) for all evaluation schools.
- Copies of recipes for menu items prepared during the week.
- Nutrition labels or nutrient fact sheets for processed and commercial food products used during the week.
- Methods used to prepare foods (e.g., steaming, baking, frying, etc.) on the week's menus.

- Ingredients used as part of any theme bars (e.g., salad, potato, pasta bars) offered during the week.
- Production records for the week (centralized and site-based). These records provide details about the menu that is actually prepared and served on a given day and typically includes information on:
 - Types and quantities of foods and ingredients used to prepare a day's menu.
 - The serving/portion size of each menu item.
 - Preparation methods such as steaming, baking, frying, etc.
 - The number of servings prepared of each item on the menu.
 - The number of servings of each menu item sold (and/or left over).
 - The number of reimbursable (full, reduced price, and free) meals sold on a given day.

Collection Period. For the baseline analysis, the week of February 26, 1996, was selected. The decision to analyze this particular week in February was made in early March 1996, therefore production records were already completed. Sites were given an alternative week for analysis of February 12th, if the week of the 26th was not a full 5-day school week due to snow days, holidays, or other issues. Only one of the sites (Des Moines) requested to have their menus analyzed for the alternative week of February 12th, due to several snow days that occurred the week of the 26th. One of the sites (Tulsa) conducted their own menu analysis using a USDA-approved nutrition analysis software package. This was an acceptable alternative to having the analysis done by the USDA contractor and was reviewed by the contractor-analyst. The review consisted of selecting one day from each school and checking to see if the production records matched what was entered into the program for analysis.

For the post-intervention analysis, the week of October 7, 1996 was selected. The decision to analyze this particular week was made in late September and site TNCs were alerted to this prior to the week of 10/7. In part, this was done with the hope that production records for the week being analyzed would contain more complete information than those received at baseline. For the post analysis, four of the seven sites (Tulsa, Des Moines, Passaic, and Cleveland) completed their own menu analysis using USDA-approved software.

Data Clarification and Verification. Once site information was submitted for analysis, it was reviewed by the analyst and a detailed list of assumptions and inquiries was compiled and sent to the TNC or designated contact for feedback and resolution as needed. Examples of assumptions and/or inquiries most commonly focused on to the following:

- Securing/clarifying recipes or nutrition labels/fact sheets information for menu items.
- Portion sizes for various menu items.
- Number of servings prepared of various menu items.
- Method of preparation (e.g., baked, broiled, fried, etc.).
- Form of the item (this usually applied to fruits and vegetables to determine if the item was fresh, frozen, or canned).
- Composition of items (e.g., % of fat in ground beef used to make hamburgers; whether salad dressing offered was non-, full-, or low-fat).

Several rounds of communication, spanning several weeks, between the contractor-analyst and the TN site contact were sometimes needed before all the product information for conducting the analysis was available. Most often these delays could be attributed to difficulty in obtaining needed product specifications from manufacturers and/or the very busy schedules of the site contacts which sometimes prohibited them from gathering the details needed to respond to queries.

As mentioned previously, in Phase II, four of the seven districts conducted their own menu analysis. To validate these analyses, the results from one randomly selected day for each participating school in the four districts were compared to the production records and other related support materials used to produce it.

A review by the contractor revealed that the majority of data correctly matched the production sheet information. In a few cases, however, results of the validation check pointed to: 1) discrepancies between the figures noted on the production sheet that should be used for weighting a particular item and the figure that was actually used in the analysis for weighting that particular item; 2) failure to include an item noted on a production sheet in the analysis; 3) discrepancies between the level of detail about a given item, in this case milk, with the information reported in the analysis. Specifically, production sheets listed "milk" with no description as to the types and quantities of milk

used. The analysis for that same day broke the milk out into type and quantity. These discrepancies could not be resolved.

Data Analysis. Menus for individual treatment and comparison schools were analyzed using one of the USDA-approved software packages. All USDA-approved software uses the National Nutrient Database for Child Nutrition Programs (NNDCNP). Menus were weighted and compared to Nutrient Standards.

A Nutrient Standard is the required level of calories and nutrients for a specific age group. The Nutrient Standards are based on the required level of calories, nutrients and dietary components for a specific age or grade group. When the components of planned and offered lunch menus are averaged over a week, they should meet the Nutrient Standard for the intended age or grade group. For the purposes of this study, Nutrient Standards for children age 7-10 were used. Nutrient Standards exist for the following:

- Calories
- % calories from fat
- % calories from saturated fat
- Protein
- Iron
- Calcium
- Vitamin A
- Vitamin C

Foods containing the nutrients just listed, typically contain the other essential nutrients for which there are no specified standards. Such nutrients include:

- Cholesterol
- Sodium
- Carbohydrate
- Dietary fiber

Weighting is based on the projected number of servings of each menu item and condiment on a given day. The rationale is that menu items that are served to more students provide a larger proportion of the nutrients for that meal. Therefore, the

nutrients in that item should be given more weight. Figures to be used for weighting (the projected number of servings of each menu item) menu items were obtained from each school's daily food production records.

CHALLENGES IN COLLECTING DATA AND INTERPRETING RESULTS

There were a number of challenges in collecting the data needed to perform the menu analysis. Most notably these included:

Production records that were incomplete and/or lacked the level of detail needed to conduct the most highly reliable and valid menu analysis possible. As a generalization across all sites, production records most often lacked detail with regard to the following:

- Portion sizes for various menu items.
- Number of servings prepared of various menu items.
- Method of preparation (e.g., baked, broiled, fried, etc.).
- Form of the item (this usually applied to fruits and vegetables to determine if the item was fresh, frozen, or canned).
- Composition of items (e.g., % of fat in ground beef used to make hamburgers; whether salad dressing offered was non-, full-, or low-fat; type of milk, white or chocolate, and its fat content).

Nutrition labels or nutrient fact sheets did not contain information necessary for analysis. This information was obtained through the site contact. In some cases this nutrition information was unavailable and/or difficult for the site contact to retrieve from the product manufacturer or supplier. In the few cases when this information could not be secured, the site contact would designate another similar product, for which the nutrient information was available, to use in its place.

Recipes for items (including those for salad/theme bars) were not provided or were submitted with incomplete information. Typically the information that was missing from an incomplete recipe was total recipe yield and/or portion size for an individual serving. This information is vital for properly entering a recipe into the software. Another problem that arose with recipes submitted in support of a menu was lack of specificity with regard to ingredients. For example, *ground beef* was listed as an ingredient in a recipe with no specification as to its fat content, or *oil* was listed as an ingredient with no specification as to the type of oil. In all cases, when recipes lacked needed information/detail,

contact was made with the site for resolution. In circumstances where details regarding the composition of a particular ingredient were uncertain, the default was to enter a commodity version or *not further specified* (NFS) version of the particular ingredient from the NNDCNP portion of the software.

Other discrepancies between results and production records were noted during the contractor's validation of district-submitted nutrient analyses. Since these discrepancies occurred even with very limited validation (i.e., for one meal per school), this raised substantial questions about the soundness of the overall analyses.

Another example was the newness of the Garden Choices bars which posed a challenge in formulating a recipe that could be used in the menu analysis. This was due to a lack of data available over a reasonable span of time that could contribute to the development of a recipe would be a good reflection of ingredient types and quantities selected by students.

Clearly there were a number of challenges faced in obtaining the data needed to conduct valid menu analysis. As a result, the decision was made not to present the results of the actual menu analyses in this report.

RECOMMENDATIONS FOR CONDUCTING AND REPORTING MENU ANALYSIS

The following recommendations are based on the experience gained from attempting to conduct menu analyses for the TN Pilot Project and are offered in support of future efforts to conduct school-based menu analysis:

There is a strong need to improve the quality of the site-based data that is required for menu analysis. Specifically, this would entail:

- A much greater and more consistent level of detail in reporting the type, form, and composition of foods used; and the method(s) of preparation used for menu items.
- Access to menu item recipes, including salad/theme bars, that consistently provide specific information with regard to ingredients, recipe yield, and serving size.
- Accurate and consistent information on the total number of servings prepared for each lunch item offered (including various types of milk) so that the process of weighting the menu can be as accurate as possible.

- Consistent availability of complete nutrition labels or nutrient fact sheets for processed and commercial food products used on the menu.

To support the availability of reliable data from schools, there needs to be an increased understanding of, and compliance with, USDA production/record-keeping responsibilities by all levels of school food service/cafeteria managers. Finally, if site-based, self-reported menu analyses are to be accepted as valid outcome measures, adequate resources must be available for conducting data verification.

APPENDIX E: REFERENCES

Andreasen, A. (1995). Marketing Social Change: Changing Behavior to Promote Health, Social Development, and the Environment. San Francisco: Jossey-Bass.

Arbeit, M. L., Johnson, C. C., Mott, D. S., Harsha, D. W., Nicklas, T. A., Webber, L. S., & Berenson, G. S. (1992). The heart smart cardiovascular school health promotion: Behavior correlates of risk factor change. Preventive Medicine, 21, 18-32.

Bandura, A. (1986). Social Foundations of Thought and Action: A Social Cognitive Theory. Englewood Cliffs, NJ: Prentice Hall.

Contento, I., Balch, G. I., Bronner, Y. L., Lytle, L. A., Maloney, S. K., White, S. L., Olson, C. M., Swadener, S. S. (1995). The effectiveness of nutrition education and implications for nutrition education policy, programs, and research: A review of research. Journal of Nutrition Education, 27(6), 279-418.

Domel, S. B., Baranowski, T., Davis, H., Thompson, W. O., Leonard, S. B., Riley, P., Baranowski, J., Dudovitz, B., & Smyth, M. (1993). Development and evaluation of a school intervention to increase fruit and vegetable consumption among fourth and fifth grade students. Journal of Nutrition Education, 25(6), 345-349.

Lefebvre, R. C., Flora, J. A. (1988). Social marketing and public health intervention. Health Education Quarterly, 15(3), 299-315.

Perry, C. L., Klepp, K-I., Halper, A., Dudovitz B., Golden, D., Griffin, G., & Smyth, M. (1987). Promoting healthy eating and physical activity patterns among adolescents: A pilot study of "Slice of Life." Health Education Res: Theory and Practice, 2, 93-103.

Perry, C. L., Luepker, R. V., Murray, D. M., Kurth, C., Mullis, R., Crockett, S., & Jacobs, Jr., D. R. (1988). Parent involvement with children's health promotion: The Minnesota Home Team. American Journal of Public Health, 78(9), 1156-1160.

Perry, C. L., Mullis, R. M., Maile, M. C. (1985). Modifying the eating behavior of young children. Journal of School Health, 55(10), 399-402.

Perry, C. L., Stone, E. G., Parcel, G. S., Ellison, R. C., Nader, P. R., Webber, L. S., & Luepker, R. V. (1990). School-based cardiovascular health promotion: The Child and Adolescent Trial for Cardiovascular Health (CATCH). Journal of School Health, 60(8), 406-413.

Walter, H. J. (1989). Primary prevention of chronic disease among children: The school based "Know Your Body" intervention trials. Health Education Quarterly, 16(2), 201-214.

APPENDIX F: ADDITIONAL TEAM NUTRITION PRODUCTS

1. The first part of the paper
describes the general situation
of the country in 1950.

2. The second part of the paper
describes the general situation
of the country in 1955.

3. The third part of the paper
describes the general situation
of the country in 1960.

RECENT TEAM NUTRITION PRODUCTS

In addition to the TN materials available to support the pilot community projects, a number of other items have been developed more recently or are in the planning process. Several of these items have been developed in response to needs expressed by the pilot participants. A brief description of new materials follows:

- **How-to Tasting Activity Guide/Supporter Kit #2** - A guide designed to involve Supporters with TN Schools conducting taste-testing activities. This will be included in the TN Days and Beyond Resource Kit.
- **TN Days and Beyond Resource Kit** - Includes a "How To" on TN activities: gardening, fair activities, and publicity guide. Also includes Team Up at Home Activity Booklet, Supporter Kit #2 and Connections III.
- **Spanish Translations of Smart Poster, Devour Poster, Timon's Special Menu Board, Growth Chart, Devour/Food Guide Pyramid Poster, Ten Tips for Parents** - Translated versions of these materials.
- **Healthy School Meals, Healthy Kids: A Leadership Guide for School Decision Makers** - This Guide shows, step-by-step, how school decision makers can take the lead using exciting and innovative materials and resources developed by USDA and our partners.
- **Team Nutrition Activity Calendar** - a planning calendar and companion guide for Team Nutrition Schools to plan activities in support of holidays and other national annual events. The material includes activity ideas and seasonal recipes.
- **Serving Up Success** - a "how-to" activity booklet supporting the theme Get Growing - From the Ground Up! The booklet features actual nutrition education activities created by Team Nutrition schools across the country.
- **Food, Family, and Fun: A Seasonal Guide to Healthy Eating** - This resource book is designed to help parents reinforce at home what their children are learning about healthy eating at school. Through healthful, tasty recipes, fun children-oriented activities, and nutrition information, the book gives parents the tools to bring nutrition education into their homes.
- **Menu Planner for Healthy School Meals** - Designed for food production staff, it provides guidance on the various menu planning options available to local School systems. The guide will include 75-100 pages and will also be available on computer disk and CD ROM (expected Summer '98).

- **Culinary Training Videos** - Training videos on healthy food production for school food service personnel are being developed in cooperation with the USDA's Office of Communications. The videos will explore new approaches to the production of healthy, tasty and attractive foods for the school meals programs with an emphasis on developing culinary skills. USDA recipes, including culturally diverse and ethnic foods will be featured in the videos. The videos will be accompanied by an instructor's manual (expected Summer '98).
- **Food Buying Guide for Child Nutrition Programs** - An Interagency Agreement was made with Natick Research to revise the Food Buying Guide. The project will include research on new foods not found in the current guide as well as reviews of some food found in the 1984 edition. The project is expected to take 18 months (expected Spring '99).
- For more information on these materials, see <http://www.usda.gov/fcs/team.htm>.

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- Food Buying Guide for Child Nutrition Program
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The project will not be repeated for new foods not in ...
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